PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN

STANDARD CHLORINE CHEMICAL COMPANY SITE
KEARNY, NEW JERSEY

Prepared for:

The Peninsula Restoration Group
(Standard Chlorine Chemical Co., Inc., Tierra Solutions, Inc. and Beazer East, Inc.)
On behalf of Standard Chlorine Chemical Co., Inc.

Prepared by:

Key Environmental, Inc.
200 Third Avenue
Carnegie, Pennsylvania 15106

December 2008

Exhibit "A"

CERTIFICATION
Pursuant to N.J.A.C. 7:26C-1.2

Regarding the *Phase II Supplemental Remedial Investigation Work Plan* dated December 2008 (collectively, including all enclosures, the "Submission") prepared by Key Environmental Inc. (Key) for the Peninsula Restoration Group on behalf of Standard Chlorine Chemical Co., Inc. (SCCC) and submitted herewith by SCCC, pursuant to the October, 1989 Administrative Consent Order for the SCCC Site located in Kearny, New Jersey, the undersigned officer of Key, does state as follows:

"I certify, under penalty of law that I have personally examined and am familiar with the Submission and that the information provided in the Submission is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information, and that I am committing a crime of the fourth degree if I make a written false statement that I do not believe to be true. I am also aware that, if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

KEY ENVIRONMENTAL, INC.

James Zubrow, P.G.	President
Typed/Printed Name	Title
James Zubrow	December 3, 2008
Signature	Date

Sworn to and subscribed before me on this 3rd day of December 2008.

Kelly V. Kobistek

Signature of Notary Public
(Stamp and Seal/Commission Expiration Date)

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Kelly V. Kobistek, Notary Public
Carnegie Boro, Allegheny County
My Commission Expires Apr. 15, 2010
Member, Pennsylvania Association of Notaries

CERTIFICATION
Pursuant to N.J.A.C. 7:26C-1.2

Based on the Certification attached hereto as Exhibit "A" of Jim Zubrow of Key Environmental, Inc. regarding the *Phase II Supplemental Remedial Investigation Work Plan* dated December 2008 (collectively, including all enclosures, the "Submission") prepared by Key Environmental Inc. (Key) for the Peninsula Restoration Group on behalf of Standard Chlorine Chemical Co., Inc. (SCCC) for the Standard Chlorine Chemical Company Site (SCCC Site) located in Kearny, NJ, the undersigned officer of Standard Chlorine Chemical Co., Inc. does state as follows with respect to information regarding the SCCC Site:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein including all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, to the best of my knowledge, I believe the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information, and that I am committing a crime of the fourth degree if I make a written false statement that I do not believe to be true. I am also aware that, if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

STANDARD CHLORINE CHEMICAL CO., INC.

By: Margaret W. Kelly
Margaret W. Kelly
Vice President

Sworn to and subscribed before me this 02nd day of December, 2008.

Lisa V. Thomas
Signature of Notary Public

LISA V. THOMAS
No. 01TH6077607
Notary Public, State of New York
Qualified in Kings County
My Commission Expires Sept. 20, 2010

(Stamp and Seal/Commission Expiration Date)

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LIST OF ABBREVIATIONS/ACRONYMS

ACO	Administrative Consent Order
AOC	Area of Concern
Beazer	Beazer East, Inc.
CFR	Code of Federal Regulations
CLH	Chemical Land Holdings, Inc.
cm/sec	centimeters per second
COI	Constituents of Interest
COPR	Chromite Ore Processing Residue
Cr	Chromium (Total)
Cr(VI)	Hexavalent Chromium
Cr(III)	Trivalent Chromium
Diamond Site	Former Diamond Shamrock Site
Dioxin	2,3,7,8- Tetrachlorodibenzo-p-dioxin
DNAPL	Dense Non-Aqueous Phase Liquid
EP	Extraction Procedure
EPA	U.S. Environmental Protection Agency
ER-M	Effects Range-Median
ESI	Enviro-Sciences, Inc.
ft/ft	Feet per Foot
FSP	Field Sampling Plan
Group	Peninsula Restoration Group
GWQS	Groundwater Quality Standards
HASP	Health and Safety Plan
IRA	Interim Response Action
IRAW	Interim Response Action Workplan
IRM	Interim Remedial Measure
LIF	Laser-Induced Fluorescence
Maxus	Maxus Energy Corporation
mg/kg	Milligram per Kilogram
mg/L	Milligrams per Liter
msl	Mean Sea Level
NGVD	National Geodetic Vertical Datum
N.J.A.C.	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NRDCSCC	New Jersey Non-Residential Direct Contact Soil Cleanup Criteria
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCDD	Polychlorinated Dibenzodioxin
PCDF	Polychlorinated Dibenzofuran
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SCCC	Standard Chlorine Chemical Co., Inc.
Seaboard	Former Koppers Seaboard Site

LIST OF ABBREVIATIONS/ACRONYMS (CONTINUED)

SRI	Supplemental Remedial Investigation
SRIWP	Phase II Supplemental Remedial Investigation Work Plan
SVOCs	Semi-Volatile Organic Compounds
SWQC	Surface Water Quality Criteria
TAL	Target Analyte List
TCDD	Tetrachlorodibenzo-p-dioxin
TCL	Target Compound List
Tierra	Tierra Solutions, Inc.
TOC	Total Organic Carbon
VOCs	Volatile Organic Compounds
Weston	Roy F. Weston, Inc.

1.0 INTRODUCTION

This Phase II Supplemental Remedial Investigation Work Plan (SRIWP) for the Standard Chlorine Chemical Company Site (located at 1025-1035 Belleville Turnpike in Kearny, New Jersey) has been prepared for the Peninsula Restoration Group ("Group")[1] on behalf of Standard Chlorine Chemical Co., Inc. (SCCC). This SRIWP presents the scope of work necessary to complete the Remedial Investigation (RI) for the SCCC Site located in Kearny, New Jersey. Investigation of six Areas of Concern is proposed in this SRIWP. Existing data collected as a result of historical investigations, coupled with data to be collected during implementation of an Interim Response Action, are considered adequate for characterization of six additional Areas of Concern (the various Areas of Concern are described in detail in Section 6.0).

The Phase II Supplemental RI (Phase II SRI) includes collection of data for onsite as well as offsite areas. Offsite data collection areas include locations on the adjacent Former Diamond Site (to the north/northwest) and the adjacent former Koppers Seaboard (Seaboard) Site (to the southeast). The RI activities presented in this SRIWP, coupled with information generated as a result of historical investigations, address the RI requirements of New Jersey Administrative Code (N.J.A.C.) 7:26E (i.e., the Technical Requirements for Site Remediation) as well as the October 1989 Administration Consent Order entered into between the NJDEP and SCCC (the SCCC ACO).

The location of the Site is shown on Figure 1-1 which consists of combined portions of two United States Geologic Survey 7.5 minute quadrangles (Jersey City and Weehawken, New Jersey). The general Site arrangement under current conditions is shown on Figure 1-2. The SCCC Site occupies an area of approximately 25 upland acres. The Site is bounded by the Hackensack River to the northeast, Belleville Turnpike to the southwest, the Diamond Site to the north and northwest, and the Seaboard Site to the southeast. Railroad tracks were formerly present at the southwestern corner of the Site. A north-south trending railroad right-of-way, the

[1] The Group is comprised of SCCC, Tierra Solutions, Inc., and Beazer East, Inc. (Beazer), a former owner of a portion of the SCCC Site.

site of a former rail spur which is currently owned by the Hudson County Improvement Authority traverses the site from the northwest to southeast.

Various historical Remedial Investigation activities and Interim Remedial Measures (IRMs) have been implemented at the SCCC Site pursuant to an Administrative Consent Order (ACO). The ACO activities conducted to date are summarized in Table 1-1. These activities have resulted in the collection of the majority of the information necessary for completion of the SCCC Site RI.

As indicated, a series of Interim Remedial Measures (IRMs) were completed by SCCC in the early 1990s. The IRMs were completed in accordance with an NJDEP-approved Workplan and consisted of the following tasks:

- Installation of security fencing surrounding the former production area and lagoons to prevent unauthorized access;
- Addition of soil to the lagoon berm to increase its height and the available freeboard to prevent potential overflows;
- Placement of geotextile and rip rap along the Hackensack River shoreline in the vicinity of the lagoon;
- Removal, packaging, and secure placement of the contents of five aboveground storage tanks; and,
- Packaging and secure placement of asbestos-containing materials associated with the IRMs.

To mitigate potential risk of human exposure to hexavalent chromium at the property, IRMs were implemented by Maxus Energy Corporation (Maxus) on behalf of Occidental Chemical Corporation in February 1991 in the western and central sections of the SCCC Site[2]. The chromium IRMs implemented at the site were as follows:

2 Some of the work at the SCCC Site has been conducted under an Administrative Consent Order dated April 17, 1990 entered by NJDEP with Occidental Chemical Corporation (OCC) and Chemical Land Holdings, (CLH) Inc. (now Tierra) relating to COPR (the "Diamond ACO"). Maxus historically had responsibility for overseeing work under the Diamond ACO for OCC, as successor to Diamond Shamrock Chemicals Company.

- Installation of an asphalt pavement overlay (new wearing course) on exiting asphalt-paved traffic areas;

- Asphalt paving with geotextile fabric over existing soils, overlain by 4 inches of dense graded aggregate, overlain by 4 inches of asphalt of all remaining traffic areas;

- Construction of an interim surface cover in non-traffic areas west of the railroad right-of-way with geotextile/geomembrane liner overlain with 4 inches of dense graded aggregate; and,

- Installation of a dust fence barrier along the railroad right-of-way and north fence line to isolate the impacted surface soil in the former process area.

In addition to the historical investigative and remedial activities listed in Table 1-1, substantial investigative activities at the Site are also planned pursuant to an Interim Response Action Work Plan (IRAW) prepared jointly for the SCCC and Diamond Sites. The IRAW was submitted to the New Jersey Department of Environmental Protection (NJDEP) in May 2007 and an IRAW addendum was submitted in response to NJDEP comments in November 2007.

The remainder of this SRIWP is structured based on the outline for an RI Work Plan as presented in N.J.A.C. 7:26E-4.2. The following specific sections are provided:

- Section 2 Phase II Supplemental RI Schedule
- Section 3 Principal Remedial Investigation Personnel
- Section 4 Site History
- Section 5 Site Description
- Section 6 Description of Areas of Concern
- Section 7 Area of Concern Sampling Summary
- Section 8 Proposed Sampling Locations
- Section 9 Other Sampling Proposals
- Section 10 Quality Assurance Project Plan
- Section 11 Health and Safety Plan

2.0 PHASE II SUPPLEMENTAL RI SCHEDULE

A detailed schedule for the completion of the SCCC Phase II SRI is provided as Figure 2-1 in the form of a Gantt chart. The schedule depicts all major Phase II SRI activities, including timelines and dates for all field activities, receipt of analytical results, and submittal of reports to the NJDEP. The schedule as presented is based on an assumed SRIWP approval date of June 1, 2008.

3.0 PRINCIPAL REMEDIAL INVESTIGATION PERSONNEL

The Group will oversee the RI project with technical coordination by Langan Engineering (on behalf of SCCC). KEY will be responsible for ensuring that project-specific sampling activities related to the RI data acquisition activities are implemented in conformance with the requirements of the SRIWP, Field Sampling Plan (FSP), Quality Assurance Project Plan (QAPP), and Health and Safety Plan (HASP). Those tasks not performed by KEY will be completed by subcontractors subject to oversight by KEY. KEY will also have primary responsibility for Quality Assurance/Quality Control (QA/QC) for field activities, analysis, and report preparation. KEY will issue deliverables to the Group for submittal to the NJDEP, as appropriate. The management, technical, and QA/QC responsibilities of the project personnel for implementation of the RI activities are summarized as follows:

<u>Group Project Management [Ms. Margaret Kelly (SCCC), Mr. Enrique Castro (Tierra), and Mr. Mitchell Brourman (Beazer)]; Technical Coordinator [Mr. Gerry Coscia (Langan, on behalf of SCCC)]</u>

- Coordinate project technical activities
- Conduct project planning activities
- Attend meetings between the Group and NJDEP, as necessary
- Review all project deliverables
- Oversee the project budget, schedule, and staffing

<u>KEY Project Manager (Mr. James Zubrow: 412-279-3363)</u>

- Coordinate project technical activities
- Assist SCCC in project planning
- Attend meetings between the Group and NJDEP, as necessary
- Provide technical guidance to field personnel
- Establish project files
- Review all project deliverables
- Manage the project budget, schedule, and staffing

<u>KEY Field Investigation Task Leader (Mr. James Snook)</u>

- Ensure that appropriate field documentation is incorporated into the project files
- Supervise field investigation activities and ensure that the SRIWP, FSP, QAPP, and HASP are followed
- Provide Health and Safety field support
- Participate in project meetings with the Group and NJDEP, as necessary
- Prepare project technical reports

KEY QA/QC Officer (Mr. Robert Hubbard):

- Initiate corrective action, as necessary, for quality assurance (QA) compliance
- Review laboratory data corrective action, as necessary, for QA compliance
- Coordinate analytical data validation, as required, and review
- Review laboratory QA/QC
- Review documentation

Primary responsibility for implementation of the RI rests with KEY's Project Manager. Primary responsibility for data quality rests with KEY's QA/QC Officer. Quality assurance will be provided by the analytical laboratory's Project Manager and QA/QC Officer prior to release of data and/or reports to KEY.

4.0 SITE HISTORY

A detailed description of the SCCC Site operational history is provided in the RI Report prepared by Roy F. Weston, Inc. (Weston, May 1993). In summary, manufacturing operations were conducted at the Site by various entities between 1916 and 1993, and included the refining of naphthalene, the manufacture of products from naphthalene, naphthalene derivatives, and dichlorobenzenes, the formulation of drain cleaning products, and, on a limited basis during the mid-1970s, the processing of trichlorobenzene. The naphthalene refining operations were conducted in the eastern two-thirds of the Site. The manufacture of dichlorobenzene products and the formulation of drain cleaning products occurred in the western one-third of the property. Dichlorobenzene and trichlorobenzene processing was conducted in the northeastern section of the Site.

4.1 HISTORICAL SITE PLANS

Figure 4-1 provides a graphical representation of historical site operations. Former processing areas, wastewater treatments, raw material storage, packaging and warehousing, and administrative areas are shown on Figure 4-1.

4.2 HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs were obtained for the SCCC Site and are provided in Appendix A. The aerial photographs consist of matte finish color and black/white plates. In accordance with the requirements of N.J.A.C. 7:26E-4.2(b)(3)(ii), the Site boundaries, a bar scale, and a north arrow have been overlain on the aerial photographs. Details regarding the various aerial photographs are as follows:

Year	Type	Source
1986	Color	Topo-Metrics, Inc.
2006	Color	United States Geological Survey
1953	Black&White	Electronic Data Resources, Inc.
1966	Black&White	Electronic Data Resources, Inc.
1976	Black&White	Electronic Data Resources, Inc.
1985	Black&White	Electronic Data Resources, Inc.
1995	Black&White	Electronic Data Resources, Inc.

The quality of the aerial photographs varies considerably. Nonetheless, interpretation of the photographs is achievable, particularly for the color plates. In accordance with N.J.A.C. 7:26E-3.1(c)1vi, interpretation of the historical aerial photos has been completed. The following specific items of interest are discernable from the historical black and white photographs:

- A portion of the east lagoon is apparent in the earliest available black and white photograph (1953) and some soil disturbance is evident in the remainder of the lagoon area;

- A white area believed to be a pile of either raw material or off-specification material is evident to the west of the lagoon in the earliest available aerial photograph (1953);

- Inspection of the 1953 photograph indicates that buildings existed in all the locations where they exist under current site conditions;

- Railcars are evident in the north-central portion of the 1953 photograph and a rail siding that curves to the northeast to the adjacent property (i.e., the adjacent Former Diamond Site is evident);

- The drainage feature along the southern property line is vaguely discernible in the 1953 photograph but is not as fully developed as it appears to be in subsequent photographs;

- The drainage feature that currently exists in the center of the site is also vaguely discernible in the 1953 photograph but is not as extensive as in subsequent photographs;

- The drainage feature that exists in the northwestern corner of the property is evident in the 1953 photograph and appears to convey runoff on to the site from offsite locations;

- As of 1966, standing water is evident in both the east and west lagoons, the Site surface appears to be more disturbed, and then central drainage ditch is more fully developed;

- The 1976 image is relatively unclear but Site conditions do not appear to have changed appreciably with the exception of the east and west lagoons which appear to be full of water in the image;

- Conditions do not appear to have changed appreciably from 1976 through 1995 as is evident from inspection of the 1976, 1985, and the 1995 photographs.

The two color plates provided in Appendix A are reasonably good images. One of these plates is a 1986 aerial photograph that shows the condition of the Site prior to the implementation of any IRMs. The 2006 photograph essentially shows the condition of the Site as it exists today. The 2006 photograph reflects the improvements in Site environmental conditions achieved via the completion of the various IRMs. The following items of interest are discernible on the 1986 color plate:

- Areas of exposed soils are evident across much of the site, particularly in the westernmost portion;

- An elongated area of stained soil is evident in the vicinity of the former railroad siding although it is evident that the siding has been removed;

- The east and west lagoons are essentially full of solids and standing water, however, no evidence of any overland releases of the lagoon contents is evident;

- A large number of tanks in the northeastern production area and in the vicinity of the drain cleaning product formulation area (western portion of the Site);

By contrast, the 2006 color aerial photograph displays a number of significant changes in site conditions, as follows:

- IRMs consisting of soil, gravel, or asphalt surface covers have been emplaced in the northwestern, southwestern, and central portions of the site;

- The tanks in the northeast processing area and the western formulation area have been removed from the site;

- Cargo containers used for interim storage of asbestos-containing materials and other interim measure-related materials are evident just to the west of the central drainage ditch;

- Volunteer vegetation is evident at a number of locations on the Site and a slight riparian buffer zone is developing along the Hackensack River.

5.0 SITE DESCRIPTION

This section provides a description of the site and consists of a discussion of the site physical conditions, surface water, topography (quadrangle), wetlands, boring log information, and surrounding land use.

5.1 SITE PHYSICAL CONDITIONS

The physical and environmental conditions at the SCCC Site have been characterized through the completion of a series of investigations previously identified in Table 1-1. The following subsections describe the localized physical conditions including soils, geology, hydrogeology, and topography. The environmental conditions at the SCCC Site are summarized on an Area of Concern (or Media of Concern) basis in Section 6.0.

5.1.1 Soils

The SCCC Site was originally marshlands. The marshlands were filled with between 2 to 8 feet of fill material to accommodate development. Fill material constitutes the uppermost "soil" horizon at the SCCC Site.

The soils at the Site are identified as NJ036 on the U.S. Department of Agriculture General Soil Map for Essex and Hudson Counties (Appendix B). The soils (NJ036) are of the Sulfaquents-Udorthents-Psamments Association and are described as follows on the General Soil Map:

> *"Nearly level, very poorly drained, very deep mineral and organic soils on tide-flooded flats, and similar areas overlain by fill materials."*

5.1.2 Geology

Information regarding the regional and site-specific geology has been compiled as a result of the investigations at the SCCC Site, as well as through investigation of the adjacent Diamond and

Seaboard Sites. The regional geology consists of coastal plain sediments overlying Triassic-age bedrock. Figure 5-1 is a cross-section showing the shallow subsurface geologic conditions beneath the SCCC Site.

Prior to development, the area consisted of marshlands that bordered the Hackensack River. Fill materials (the "shallow fill unit") were placed in the coastal marshlands of the region to create property for industrial/commercial development. At the SCCC Site, these fill materials generally consisted of Chromite Ore Processing Residue (COPR) soil and silty sand to depths ranging between 2 to 8 feet below the present grade.

The original marsh surface, now located beneath the fill materials, consists of silt, humus, and peat. This layer is regionally referred to as the "meadow mat" and is typically two to four feet thick across the peninsula. The upper surface of the meadow mat is undulating rather than planar. A sand unit (the "deeper sand unit") is present beneath the meadow mat and is generally less than ten feet thick at the SCCC Site. This deeper sand layer is continuous across the Site.

A varved clay unit is present beneath the deeper sand unit. The varved clay unit is continuous beneath the Kearny peninsula. The thickness of this unit beneath the SCCC Site is estimated at greater than 40 feet based on subsurface data acquired from the western section of the Seaboard Site. The vertical permeability of the varved clay unit, based on laboratory testing of Shelby tube samples collected at the Seaboard Site, averaged approximately 2.5×10^{-8} centimeters per second (cm/sec).

A glacial till unit is present beneath the varved clay. Bedrock lies directly beneath the glacial till unit at depths ranging from 70 feet in the western section of the Seaboard Site to greater than 100 feet in the eastern section of the Seaboard Site. The depth to bedrock has not been ascertained beneath the SCCC Site but is believed to be comparable to that observed in the western section of the adjacent Seaboard Site.

5.1.3 Hydrogeology

Two separate shallow groundwater-bearing units have been the focus of the groundwater investigation activities performed at the Site: 1) a shallow fill unit; and 2) a deeper sand unit that underlies the meadow mat and overlies the varved clay. The water table occurs in the shallow fill material overlying the meadow mat.

The meadow mat is a reducing environment that prevents the vertical migration of hexavalent chromium (Cr[VI]) into the underlying sand (i.e., Cr[VI] is reduced to trivalent chromium - Cr[III]). The meadow mat also acts as a basal semi-confining unit that limits, but does not completely eliminate, the hydraulic connection between the shallow fill materials and the underlying deeper sand unit. Potentiometric data acquired from nested well locations during low tide indicate the existence of a downward vertical gradient between the shallow fill material and the deeper sand layer. Groundwater within the shallow fill material exists under unconfined conditions. Previous studies have indicated that the groundwater within the shallow fill material is not tidally influenced to a significant degree.

Groundwater flow in the shallow fill unit at the SCCC Site appears to be influenced by recharge and discharge phenomena. A potentiometric mound, resulting from recharge from precipitation, exists in the shallow fill material in the vicinity of the lagoons at the SCCC Site. Groundwater flows radially away from this potentiometric mound in the lagoon area.

Groundwater flow in the southern portion of the Diamond Site and the northern portion of the SCCC Site is toward a 48-inch diameter storm sewer located along the boundary between the two Sites. It is possible that, based on evaluation of the potentiometric data, the storm sewer (and/or the backfill surrounding it) may serve as a localized discharge point for groundwater in the fill unit. An evaluation of the storm sewer was proposed by Tierra Solutions, Inc. (Tierra) in its February 2006 response to comments on the Diamond Site RI. This evaluation has been completed. Based upon this evaluation, Tierra submitted an Interim Remedial Measures Workplan in October 2006. Repairs for the storm sewer and pressure grouting of the surrounding backfill material are recommended in the October 2006 IRM Workplan. To date, NJDEP has not acted on this IRM Workplan.

Beyond the influence of the mound in the lagoon area and the potentiometric low in the vicinity of the sewer, groundwater flow in the shallow fill material at the SCCC Site is primarily to the south-southeast toward a drainage ditch in the southern portion of the SCCC Site. Groundwater in the shallow fill unit in the eastern portion of the SCCC Site flows to the east and discharges to the Hackensack River. The average horizontal hydraulic gradient in the shallow fill material at the SCCC Site is 0.0063 feet per foot (ft/ft). Figure 5-2 is a potentiometric surface contour map for the shallow fill unit on the SCCC Site.

Groundwater in the deeper sand unit beneath the meadow mat exists under semi-confined conditions. The underlying varved clay acts as an effective barrier to the downward migration of groundwater from this unit. Groundwater flow in the deeper sand unit is primarily to the south-southeast, sub-parallel to the direction of flow in the river. Horizontal hydraulic gradients in the deeper sand unit are relatively flat, ranging from 0.002 to 0.008 ft/ft. Figure 5-3 is a potentiometric surface contour map for the deeper sand unit on the SCCC Site. Based on previously conducted slug tests, the average horizontal hydraulic conductivity of this unit at the SCCC Site is 5.34 feet/day (1.9×10^{-3} cm/sec).

Groundwater within the deeper sand unit is tidally influenced to a limited extent. Fluctuations in potentiometric surface elevations that are correlated to tides in the Hackensack River have been observed in wells located immediately adjacent to the river. The limited tidal influence has not been observed to create significant changes in groundwater flow directions.

5.1.4 Topography

An aerial survey of the SCCC Site and surroundings was completed by Air Survey of Dulles, Virginia in 2004. A topographic base map was prepared as a result of the flyover and has been used for the preparation of specific Site plan view maps presented in this SRIWP. Topographic contours based on the aerial survey are depicted on one-foot contours on Figure 5-4. The horizontal reference is New Jersey State Plane Coordinates based on North American Datum (NAD 1927) and the vertical reference is National Geodetic Vertical Datum (NGVD 1929).

As shown on Figure 5-4, the surface of the Site is relatively flat and ranges in elevation from approximately 3 feet to 10 feet above mean sea level (msl). Areas of greater topographic relief exist along the Hackensack River shoreline and in the vicinity of the lagoons in the eastern portion of the site (berms). Drainage is primarily to the Hackensack River via a drainage ditch that exists along the southern side of the Site.

5.2 SURFACE WATER BODIES

The SCCC Site is located on the Kearny Peninsula between the Passaic and Hackensack Rivers. The Passaic River is located approximately 1 mile to the west of the Site and no hydraulic connection exists between the Site and the Passaic River. By contrast, the Hackensack River is located immediately east of the Site.

The Hackensack River is approximately 45 miles long and rises in Rockland County, New York approximately 1.6 miles south of West Haverstraw. The river follows a generally meandering southerly route and is impounded at two major locations to form reservoirs (Lake Tappan and the Oradell Reservoir).

The Hackensack River, Lake Tappan, and all tributaries are classified as FW2-NT(C1) waters from the New York/New Jersey State line to the Oradell Dam (N.J.A.C. 7:9-6B). The main stem of the river and saline tributaries from the Oradell Dam to Overpeck Creek are classified as SE1. The main stem and saline tributaries from Overpeck Creek to the Route 1 and 9 crossing are classified as SE2. Finally, the main stem downstream of the Route 1 and 9 crossing is classified as SE3.

The Hackensack River adjacent to the SCCC Site is classified SE2. The Route 1 and 9 crossing is located approximately 2.5 river miles downstream of the Site. The classifications applicable to the reaches of the river adjacent to and downstream of the Site are defined as follows (N.J.A.C. 7:9-6B):

SE2 – The SE2 classification applies to saline estuarine waters whose designated uses are as follows:

1. Maintenance, migration and propagation of the natural and established biota;
2. Migration of diadromous fish;
3. Maintenance of wildlife;
4. Secondary contact recreation; and
5. Any other reasonable uses.

SE3 – The SE-3 classification applies to saline estuarine waters whose designated uses are as follows:

1. Secondary contact recreation;
2. Maintenance and migration of fish populations;
3. Migration of diadromous fish;
4. Maintenance of wildlife; and
5. Any other reasonable uses.

The flow of freshwater in the Hackensack River has been reduced by diversion for municipal water supplies. The Hackensack Water Company was created in the late 1860s to supply the cities of Hoboken, Weehawken, and Hackensack. Starting in 1901, the water company began constructing dams and reservoirs throughout the Hackensack River watershed, initially at Woodcliffe, and later at Oradell and Clarkstown. These reservoirs reduced the flow of freshwater in the Hackensack River, allowing saltwater to move upriver. In addition, dredging operations have resulted in upriver migration of salt water.

The Hackensack River is tidally influenced as far upstream as the Oradell Dam. A tidal range of approximately 5 to 6 feet occurs in the lower portion of the Hackensack River in the vicinity of the SCCC Site. Tidal information for Tidal Station 853-0696 (Hackensack River at Belleville Turnpike) located just upstream of the site was obtained from the New Jersey Tidal Benchmark Network at http://www.njgeology.org/geodata/dgsdown/njtidalbm.pdf. Elevations relative to datum are available from http://tidesandcurrents.noaa.gov.

A summary of the tidal information relative to Mean Lower Low Water (MLLW), National Geodetic Vertical Datum (NGVD) of 1929, and North American Vertical Datum (NAVD) of 1988 is as follows:

Tidal Information[(1)]	**Elevation (feet)[(2)]**		
	MLLW	**NGVD 1929**	**NAVD 1988**
MHHW	5.85	8.55	7.43
MHW	5.54	8.26	7.14
MTL	2.89	5.63	4.51
MLW	0.24	2.99	1.87
MLLW	0.00	2.76	1.64

1. Abbreviations for tidal information are as follows:

   MHHW: Mean Higher High Water
   MHW: Mean High Water
   MTL: Mean Tide Level
   MLW: Mean Low Water
   MLLW: Mean Lower Low Water

2. Elevation relative to indicated datum. Based on tidal epoch 1983-2001 with control at station 851-8750 (The Battery, New York). Elevations relative to NGVD and NAVD are based on averages for multiple benchmarks. As a result of this averaging, elevations computed indirectly from the tidal elevations may differ slightly from the datum-based elevations listed.

Surface runoff from the Site enters the Hackensack River via two primary routes: 1) a storm sewer located along the northern site perimeter; 2) via a drainage ditch along the southern Site perimeter. The drainage ditch conveys runoff via a culvert through a berm located along the river frontage. Both the storm sewer and the drainage ditch culvert are equipped with tide gates to preclude flooding of the Site under high water conditions.

5.3 USGS QUADRANGLE

Two portions of USGS quadrangles were merged to form the Site Location map presented as Figure 1-1. As required by N.J.A.C. 7:26E-4.2(b)4iii, Figure 5-5 displays the Site, property boundaries, and the area located within a 1 mile radius of the Site.

5.4 WETLANDS DELINEATION

In accordance with the requirements of N.J.A.C. 7:26E-4.2(b)4iv, wetland maps were obtained from the National Wetlands Inventory website using the United States Fish & Wildlife Surface Wetlands Online Mapper (http://wetlandsfws.er.usgs.gov). Wetland maps for the Site and surrounding area are provided at scales of 1:40,000, 1:15,000, and 1:5,000 in Appendix C. A table of wetlands and deepwater habitat classifications is also provided in Appendix C.

As shown on the 1:5,000 scale National Wetlands Inventory (NWI) map, the wetlands in the vicinity of the Site consist primarily of subtidal or intertidal estuarine habitats. The wetland areas located closest to the Site are the Hackensack River to the east-northeast and portions of the adjacent Seaboard property to the south-southeast.

As shown on the NWI map, the Hackensack River is classified as E1UBL (estuarine-subtidal-unconsolidated bottom-subtidal). The wetlands at the northern end of the adjacent Seaboard Site are classified as PUBV (palustrine-unconsolidated bottom-permanent tidal), PEM5R (palustrine-emergent-mesohaline-seasonal tidal), and E2EM5P (estuarine-subtidal-emergent-mesohaline-irregularly flooded). The east and west lagoons are classified as PUBHx (palustrine-unconsolidated bottom-permanently flooded-excavated).

Princeton Hydro, LLC also performed a Site-specific wetland survey for the SCCC Site in 2004. A wetlands map based on this Site-specific survey is also provided in Appendix C. A number of freshwater emergent wetlands were identified at the Site as a result of this survey. These emergent wetlands are located in low-lying areas (specifically the southwest corner and westernmost portion of the Site), in the locations of various drainage ditches and swales (specifically in the interior of the Site and along the southern boundary), and along the Hackensack River shoreline.

The East and West Lagoons are identified as a freshwater pond on the National Wetlands Inventory map, and as a non-regulated water feature (settling basins) on the Site-specific wetlands map.

As indicated in the Site-specific wetlands delineation report, the New Jersey Freshwater Wetlands Map for the Site (Jersey City NW and Weehawken SE Quadrants) indicates palustrine emergent persistent seasonal saturated (PEM1E) wetlands in the southern section of the Site which connects to the adjacent property (the Seaboard Site), palustrine open water intermittently flooded diked/impounded excavated (POWHx) waters in the vicinity of the man-made lagoon, and Upland comprising the majority of the Site.

5.5 BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

As required by N.J.A.C. 7:26E-4.2(b)4v, relevant boring logs have been compiled for the Site. Multiple phases of remedial investigation have been completed at the Site and boring logs from the various investigations have been compiled. Copies of boring logs and well construction diagram for the following investigative activities have been compiled:

- Lagoon Investigation - Roy F. Weston, Inc. – 1987
- Remedial Investigation - Roy F. Weston, Inc. – 1991/1992
- Focused Remedial Investigation - ERM, Inc. – 1997
- Supplemental Remedial Investigation - Key Environmental, Inc. – 1999

Copies of boring logs and well construction diagrams generated as a result of these investigatory efforts are provided in Appendix D. Additional logs, specifically those generated in 1999 via the use of a Laser-Induced Fluorescence (LIF) Rapid Optical Screening Tool (ROST), and a cone penetrometer investigation are also available and have been used, in part, to develop the scope of the planned remedial investigation outlined in this work plan.

5.6 SURROUNDING LAND USE AND POTENTIAL RECEPTORS

In accordance with the requirements of N.J.A.C. 7:26E-4.2(b)4vi, surrounding land use was reviewed with a primary emphasis on the located of sensitive environmental areas and human receptors. Land use within the 1,000-foot radius of the Site is primarily industrial in nature and no residential areas or sensitive human receptors are known to exist within this radius.

The following is a list of the closest known schools, medical facilities, day care centers, and recreational areas, including the type, name, address, approximate ordinal direction relative to the Site, and approximate distance from the Site:

Type	Name	Address	Direction	Distance	
				feet	miles
School	Elementary School 23	143 Romaine Ave. Jersey City, NJ	SE	9,350	1.77
School	Dr. Charles P DeFuccio School	214 Plainfield Ave. Jersey City, NJ	SE	8,450	1.60
Recreation Area	Laurel Hill Park	New County Road Secaucus, NJ	NNE	2,750	0.52
Recreation Area	Lincoln Park	State Route 440 Jersey City, NJ	SSE	5,700	1.08
Daycare	St. Elizabeth Child Care Center	129 Garrison Ave. Jersey City, NJ	SE	9,650	1.83
Hospital	West Hudson Hospital	206 Bergen Ave. Kearny, NJ	WNW	13,350	2.53
Hospital	Jersey City Medical Center	50 Baldwin Ave. Jersey City, NJ	SW	12,720	2.41

As shown in the preceding table, no sensitive human receptors are located proximate to the Site. A Public Health Assessment was completed for the Site in 2005 (Public Health Assessment for Standard Chlorine Chemical Company, Inc., Agency for Toxic Substances and Disease Registry [ATSDR], April 5, 2005). Fisherman at Laurel Hill Park (located approximately 0.5 miles upstream of the Site) and at the confluence of Penhorn Creek and the Hackensack River (located approximately 0.5 miles downstream of the Site) were identified by the ATSDR as potential receptors although a complete exposure pathway has not been confirmed.

The ATSDR concluded that the Site poses an *indeterminate public health hazard* via fish/shellfish consumption and air pathways. The ATSDR also concluded that the site poses *no apparent public health hazard* as a result of potential exposure associated with trespassing and/or recreational use of the river.

The Site is located adjacent to the Hackensack River at the southern end of the Hackensack Meadowlands District (HMD). The HMD is an important ecological resource and is an Atlantic flyway stopover and nesting point for migratory birds.

No federally-listed threatened or endangered species have been observed onsite to date. According to the ATSDR Public Health Assessment, state-listed species such as northern harrier hawks (*Circus cyaneus* – state endangered list), black-crowned night herons (*Nycticorax nycticorax* – state threatened list), and yellow-crowned night herons (*Nyctanassa violacea* – state threatened list) roost at the Site. Additionally, according to the United States Fish and Wildlife Service, state- and federally-listed threatened or endangered species have historically been observed in the Hackensack River watershed, and include the following: bald eagle (*Haliaeetus leucocephalus* – state endangered list); shortnose sturgeon (*Acipenser brevirostrum* – federal endangered list), dwarf wedgemussel (*Alasmidonta heterodon* – federal endangered list), bog turtle (*Clemmys muhlenbergii* – federal threatened list), and Indiana bat (*Myotis sodalist* – federal endangered list).

6.0 DESCRIPTION OF AREAS OF CONCERN

As previously discussed, various investigations have been performed at the SCCC Site. Figure 6-1 displays sampling locations for the historical investigations. Analytical data acquired during these investigations as well as a Site map displaying the locations were previously provided as an attachment to the IRAW. Multiple Areas of Concern have been identified as a result of historical record review and Site investigation. The following Areas (Media) of Concern have been identified for the SCCC Site:

- Area of Concern 1 – Lagoon Solids;
- Area of Concern 2 – Western Area Soil;
- Area of Concern 3 – Eastern Area Soil;
- Area of Concern 4 – Shallow Fill Unit Groundwater;
- Area of Concern 5 – Deeper Sand Unit Groundwater;
- Area of Concern 6 – Bedrock Groundwater;
- Area of Concern 7 – Dense Non-Aqueous Phase Liquid;
- Area of Concern 8 – Drainage Ditch Surface Water;
- Area of Concern 9 – Hackensack River Surface Water;
- Area of Concern 10 – Drainage Ditch Sediments;
- Area of Concern 11 – Hackensack River Sediments; and,
- Area of Concern 12 – Transformer Area.

Figure 6-2 displays the locations of the various Areas of Concern. The following subsections discuss each of the Areas of Concern. Brief discussions of the scope and the results of the historical investigations are provided.

6.1 AREA OF CONCERN 1 – LAGOON SOLIDS

Residual materials, comprised of solids and oily materials, are currently present in the lagoon located in the eastern portion of the property. This subsection summarizes the investigative activities conducted to date to determine the extent and/or chemical composition of lagoon solids.

Hydrogeologic Investigation (Weston 1984) - One sediment sample was collected from the western section and one from the eastern section of the lagoon as part of this investigation. The samples were analyzed for pH, total chromium (Cr), hexavalent chromium (Cr(VI)), and Extraction Procedure (EP) Toxicity metals.

Phase II Dioxin Investigation (NJDEP, 1985) – Two solid samples were collected for dioxin analysis. One sample was collected from the western section and one sample was collected from the eastern section of the lagoon as part of this NJDEP investigation. Based on the analytical results, which indicated the presence of Dioxin in one of the samples, the NJDEP directed SCCC to conduct staged Dioxin investigations.

Stage I, II, and III Dioxin Investigations (Weston, 1987 and 1988) - In February and March 1987, SCCC performed a Stage I Dioxin investigation that included collection of samples from borings located in a grid fashion across the lagoon. Samples were typically collected from four separate depths at each of the 20 locations. The two deep samples from each location were archived for future analysis if the shallower samples revealed the presence of dioxin. As a result of the presence of Dioxin in some of the Stage I samples, the Stage II and Stage III investigations were completed, which consisted of the analysis of these archived samples. As part of this investigation, a total of eighty (80) samples of the lagoon solids were analyzed for Dioxin.

Remedial Investigation (Weston, 1993) - Two solid and two aqueous samples were collected from the lagoons and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), Polychlorinated Biphenyls (PCBs), and Target Analyte List (TAL) metals.

As reported in the Weston RI Report, the lagoons occupy a surface area of approximately 33,000 square feet and have an average solids thickness of five to six feet. Thus, the lagoons contain approximately 7,300 cubic yards of solid material.

Appendix E includes a sample location map and Section E.1 of Appendix E includes data tables summarizing the results of the historical analyses of the lagoon solids. Testing conducted during the RI indicates that the lagoon material is comprised primarily of naphthalene, with lesser amounts of other volatile (benzene, ethylbenzene, and toluene) and semi-volatile organic compounds (polynuclear aromatic hydrocarbons and phenols). Hexavalent chromium was not detected in the lagoon solids. The results of the Dioxin analyses indicate the presence of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in 46 of the 82 samples analyzed. Review of the SCCC Site process descriptions and the listed hazardous waste definitions in Subpart D of 40 Code of Federal Regulations (CFR) Part 261 indicates that the materials within the lagoon are not a Resource Conservation and Recovery Action (RCRA) listed waste.

The lagoons have been investigated during multiple prior investigations and will also be subjected to waste characterization sampling and analysis during the planned IRAW. No additional investigation of the lagoons is planned for the Phase II SRI.

6.2 AREA OF CONCERN 2 – WESTERN AREA SOIL

The investigative activities conducted to characterize the soils that are located west of the railroad right-of-way on the SCCC Site are as follows:

Hydrogeologic Investigation (Weston 1984) - Eleven soil samples were collected during monitoring well installation in the western portion of the SCCC Site. The samples were analyzed for pH, total chromium, hexavalent chromium, and EP Toxicity metals. In addition, three of the soil samples were split with the NJDEP and analyzed for VOCs.

Phase II Dioxin Investigation (NJDEP, 1985) - In May 1985, six soil samples were collected for Dioxin analysis from the western portion of the site. Areas investigated by the NJDEP included the following:

- Storage tanks in the western section of the Site near Building 2;
- Rail spur south of Building 2;
- Areas receiving drainage from southwest section of the Site (2 samples);
- Open area devoid of vegetation just west of the railroad right-of-way; and,
- Rail spur south of the warehouse.

The results of these analyses indicated that 2,3,7,8-TCDD was not present in any of the six samples.

Interim Remedial Measures Sampling (French & Parrello, 1991) - Prior to implementation of the IRMs at the SCCC Site (Section 2.5.1), additional soil sampling was performed to determine the limits of the COPR-impacted surface soil. Twenty-three surface soil samples were collected from the western portion of the SCCC Site and analyzed for hexavalent and total chromium.

Remedial Investigation (Weston, 1993) - Seven test pits were excavated to determine the thickness of the COPR soil. One sample of the soil directly underlying the COPR soil was collected for analysis at each of the seven locations. These samples were analyzed for hexavalent chromium.

Three soil borings were completed to the top of the varved clay unit at locations adjacent to Building 2 where above-ground tanks were once located and chemicals for production or shipment were unloaded/loaded. Six soil samples (two from each of the borings) were analyzed for VOCs, SVOCs, pesticides/PCBs, and metals.

Focused Remedial Investigation (ERM 1997) - A total of three soil borings were advanced to the top of the varved clay unit to determine the presence/absence of Dense Non-Aqueous Phase Liquid (DNAPL), and to provide information regarding the topography of the meadow mat and varved clay. Three discrete soil samples were submitted for analysis of VOCs and "lighter weight" SVOCs.

Supplemental Remedial Investigation (Key Environmental, Inc., 1999) - Two borings were completed to the varved clay unit in the western section of the site to investigate the possible presence of a surficial source of contamination in this area. Three soil samples from each of the borings were analyzed for SVOCs.

Appendix E includes a sample location map and Section E.2 of Appendix E includes data tables summarizing the results of the historical analyses of the SCCC Site. The results of these activities indicate the presence of chlorobenzene, 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, and naphthalene at concentrations greater than the New Jersey Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC). In addition, surface soils in the western portion of the Site were also analyzed for hexavalent chromium during an investigation conducted by Maxus. The results of these analyses show the presence of hexavalent chromium at concentrations greater than the NRDCSCC at several locations.

Multiple additional borings and associated sampling and analysis are planned for the western area soils to further define the horizontal and vertical extent of constituents in western area soils. The scope of the additional investigation activities is discussed in Sections 7 and 8.

6.3 AREA OF CONCERN 3 – EASTERN AREA SOIL

The following paragraphs summarize the investigative activities conducted to characterize the soils located east of the railroad right-of-way on the SCCC Site:

Hydrogeologic Investigation (Weston 1984) - Six soil samples were collected during monitoring well installation in the eastern portion of the SCCC Site. The samples were analyzed for pH, total chromium, hexavalent chromium, and EP Toxicity metals. In addition, two of the soil samples were split with the NJDEP and analyzed for VOCs.

Phase II Dioxin Investigation (NJDEP, 1985) - In May 1985, six soil samples were collected for Dioxin analysis. Areas investigated by the NJDEP included the following:

- Rail siding for naphthalene operations in the northern section of the site, just east of the railroad right-of-way (2 samples);
- Dichlorobenzene storage tanks in the eastern section of the Site;
- Trichlorobenzene storage tanks in the eastern section of the Site;
- Area east of the lagoon; and,
- Open area devoid of vegetation in the eastern section of the Site.

The results of these analyses indicated that 2,3,7,8-TCDD was not present in five of the six samples. The only soil sample that contained a detectable concentration of 2,3,7,8-TCDD was collected in the former dichlorobenzene tank farm area.

Stage I, II, and III Dioxin Investigations (Weston, 1987 and 1988) - Surface and subsurface soil samples were collected for Dioxin analyses from seven locations around the perimeter of the lagoon and from four locations along the Hackensack River bank. 2,3,7,8-TCDD was not detected in any of these samples. Additional surface soil sampling was conducted in the area between the dichlorobenzene tank farm and the distillation building, and in the area south of the lagoon. No 2,3,7,8-TCDD was detected except in one of the samples collected between the dichlorobenzene tank farm and the distillation building.

Interim Remedial Measures Sampling (French & Parrello, 1991) - Prior to implementation of the IRMs at the SCCC Site (Section 2.5.1), additional soil sampling was performed at the request of Maxus to determine the limits of the chromium impacted surface soil. Thirteen surface soil samples were collected from the eastern portion of the SCCC Site and analyzed for hexavalent chromium and total chromium.

Remedial Investigation (Weston, 1993) - Ten shallow soil samples were collected from locations around the former storage tanks adjacent to the distillation building in the eastern section of the SCCC Site. These samples were analyzed for VOCs and SVOCs. One test pit was excavated to determine the thickness of the COPR soil. One sample of the soil directly underlying the COPR soil was collected for analysis. The sample was analyzed for hexavalent chromium.

Focused Remedial Investigation (ERM 1997) - A total of 11 soil borings were advanced to the top of the varved clay unit to determine the presence/absence of DNAPL and to provide information regarding the surfaces of the meadow mat and varved clay. Five discrete soil samples were submitted for analysis of VOCs and "lighter weight" SVOCs.

Appendix E includes a sample location map and Section E.2 of Appendix E includes data tables summarizing the results of the historical analyses of the SCCC Site soils. The results of these activities indicate the presence of chlorobenzene, 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, and naphthalene at concentrations greater than the NRDCSCC.

The investigation of surface soils in the eastern portion of the Site show the presence of hexavalent chromium at concentrations greater than the NRDCSCC in certain areas located to the north and south of the lagoons. The presence of 2,3,7,8-TCDD in soil is limited to surface soil in the vicinity of the former dichlorobenzene storage tank area.

Additional surface and subsurface soil samples will be obtained and analyzed further to define the horizontal and vertical extent of constituents in the eastern area soils. The scope of the additional investigation activities is discussed in Sections 7 and 8.

6.4 AREA OF CONCERN 4 – SHALLOW FILL UNIT GROUNDWATER

The following summarizes the investigative activities conducted to characterize the shallow fill unit groundwater on the SCCC Site:

Hydrogeologic Investigation (Weston 1984) - Five monitoring wells were installed in the shallow fill unit (8 to 10 feet deep). Groundwater samples from each of the wells were analyzed for VOCs, base/neutral extractable organic compounds, hexavalent chromium, and total chromium.

Remedial Investigation (Weston 1993) - Five additional monitoring wells were installed in the shallow fill unit. Groundwater samples were collected from these monitoring wells and were analyzed for TCL VOCs, SVOCs, PCBs, TAL metals, and hexavalent chromium. In addition, samples from four monitoring wells adjacent to the lagoons were analyzed for Dioxin.

Appendix E includes a sample location map and Section E.3 of Appendix E includes data tables summarizing the results of the historical analyses of the shallow fill unit groundwater. The results of these activities indicate that concentrations of volatile organic compounds (VOCs), chlorobenzene and dichlorobenzene isomers, and semi-volatile organic compounds (SVOCs), naphthalene and 1,2,4-trichlorobenzene, and hexavalent chromium in groundwater in the shallow fill unit exceed the NJDEP Groundwater Quality Standards (GWQS) for a Class IIA aquifer. Dioxin (2,3,7,8-TCDD) was not detected in the shallow fill unit groundwater samples. The distribution of DNAPL in the shallow unit is described in Section 6.7.

Additional investigation of the shallow fill unit groundwater is planned for the Phase II SRI. A comprehensive round of groundwater sampling and analysis will be completed to determine the current condition of groundwater. Water level measurements will be completed to investigate groundwater flow under current conditions. The scope of the additional investigation activities is discussed in Sections 7 and 8.

6.5 AREA OF CONCERN 5 – DEEPER SAND UNIT GROUNDWATER

The following paragraphs summarize the investigative activities conducted to characterize the deeper sand unit groundwater on the SCCC Site:

Hydrogeologic Investigation (Weston 1984) - Five monitoring wells were installed in the deeper sand unit (18 to 20 feet deep). Groundwater samples from each of the wells were analyzed for VOCs, base/neutral extractable semi-volatile organic compounds, and hexavalent and total chromium.

Remedial Investigation (Weston 1993) - Fifteen (15) monitoring wells were installed in the deeper sand unit. Groundwater samples were collected from these monitoring wells and were analyzed for TCL VOCs, SVOCs, PCBs, TAL metals, and hexavalent chromium. In addition, samples from three monitoring wells adjacent to the lagoons were analyzed for 2,3,7,8-TCDD. A second round of sampling was conducted by Weston as part of the RI. Samples from nine wells installed within the deeper sand unit were analyzed for VOCs, SVOCs, chromium and lead.

Supplemental Remedial Investigation (KEY 1999) - Two additional deeper sand unit monitoring wells were installed. Groundwater samples were collected from the two new monitoring wells and were analyzed for TCL SVOCs.

Appendix E includes a sample location map and Section E.3 of Appendix E includes data tables summarizing the results of the historical analyses of the deeper sand unit groundwater. The results of these activities indicate that organic constituents of interest (COIs) in groundwater in the deeper sand unit are widely distributed across the Site.

Chlorobenzene, dichlorobenzene isomers, and naphthalene were detected in the deeper sand unit groundwater at concentrations that exceed the NJDEP GWQS for a Class IIA aquifer. Chlorinated VOCs have also been detected in the deeper sand unit along the northern property boundary. Concentrations of total chromium in the deeper sand unit groundwater also exceed the Class IIA GWQS. However, no hexavalent chromium has been detected in the deeper sand unit.

Additional investigation of the deeper sand unit groundwater is planned for the Phase II SRI. Additional monitoring wells will be installed to further define the extent of dissolved phase groundwater impacts in the deeper sand zone to the south and southwest of the Site. A comprehensive round of groundwater sampling and analysis will be completed to determine the current condition of groundwater. Water level measurements will be completed to investigate groundwater flow under current conditions. The scope of the additional investigation activities is discussed in Sections 7 and 8.

6.6 AREA OF CONCERN 6 – BEDROCK GROUNDWATER

Groundwater samples were collected for analysis in 1998 prior to sealing the former production well at the SCCC Site. The purpose of this analysis was to determine appropriate management options for groundwater displaced from the well during the abandonment procedure.

The results of the deep groundwater sample analyses are presented in Section E.4 in Appendix E. Certain high molecular weight polynuclear aromatic hydrocarbon (PAH) compounds and metals (lead and chromium) were reported at concentrations slightly greater than the NJDEP Class II-A GWQS.

Based upon the low mobility of the constituents detected in the production well samples and the absence of the more mobile and prevalent constituents present in the shallow aquifers (e.g., naphthalene and dichlorobenzenes), it is likely that the detections resulted from the introduction of surficial fill (or soil) particulates into the water column through the well bore. More than 40 feet of low permeability varved clay underlies the entire site and separates the deeper sand unit and the upper section of the bedrock unit. Also, as indicated previously, the vertical permeability of this unit is on the order of 10^{-8} cm/sec. The thickness, continuity and low permeability of the varved clay unit preclude the advective transport of dissolved constituents through the underlying strata to the bedrock unit.

Based on available data, no evidence exists to indicate that bedrock groundwater has been adversely impacted as a result of Site operations. No additional investigation of bedrock groundwater is planned for the Phase II SRI.

6.7 AREA OF CONCERN 7 – DNAPL

As part of the Focused RI, all monitoring wells were checked for the presence of DNAPL. DNAPL was detected in four monitoring wells screened in the deeper sand unit. The apparent thicknesses of the DNAPL accumulated in these wells were measured. A table summarizing these measurements is included in Section E.5 in Appendix E. Samples of the DNAPL were also collected for chemical characterization. The results of these analyses indicate the DNAPL is comprised primarily of 1,2,4-trichlorobenzene, naphthalene and the dichlorobenzene isomers. A table summarizing these results is also included in Section E.5 of Appendix E. A sample location map is provided in Appendix E for reference.

The presence of DNAPL at the Site was further evaluated during the Supplemental RI. Delineation of the extent of DNAPL was completed using LIF technology. Thirty-one soundings were advanced to the varved clay at locations across the Site. At four locations where the LIF data were deemed inconclusive in terms of DNAPL absence/presence, confirmatory soil borings were completed.

A comprehensive evaluation of all available information regarding occurrence of DNAPL was completed as part of the SRI data evaluation process. In addition to the LIF readings, information reviewed and considered in this evaluation included boring log descriptions, DNAPL thickness measurements, soil analytical data and groundwater analytical data.

The presence of DNAPL in the shallow fill unit above the meadow mat appears, for the most part, to be limited to the area immediately surrounding the lagoons and the area adjacent to Building 4. It does not appear that significant lateral migration of DNAPL in the shallow fill unit has occurred based on review of historical information (boring logs, groundwater analytical results) and the LIF data.

The SRI results indicate that DNAPL is more widely distributed in the deeper sand unit than in the shallow fill unit, and is present directly on the top of the varved clay. This indicates that

DNAPL is present from west of the lagoon area to the vicinity of the former railroad right-of-way. Also, DNAPL is present in the deeper sand unit at the northern property boundary and in the area between the lagoons and the river. DNAPL was also inferred to be present in the area south of the lagoons and along the southwest property boundary in the vicinity of Buildings 2 and 4.

Multiple additional borings are planned for the Phase II SRI to further define the nature and extent of DNAPL impacts. Characterization of the extent of DNAPL will be completed in both onsite and offsite locations. The scope of the additional investigation activities is discussed in Sections 7 and 8.

6.8 AREA OF CONCERN 8 – DRAINAGE DITCH SURFACE WATER

In October 2002, the U.S. Environmental Protection Agency (EPA) collected surface water samples for analysis from 17 locations within the Southern Drainage ditch, swales that discharge to the ditch, and a "wetland" area on the adjacent Seaboard Site that is hydraulically connected to the ditch. The samples were analyzed for TCL VOCs, TCL SVOCs, TAL metals, pesticides and PCBs. The results of these analyses are presented in the *Sampling Report for the Standard Chlorine Site* (EPA, 2002).

Appendix E includes a sample location map and Section E.6 of Appendix E includes data tables summarizing the results of the analyses of the drainage ditch surface water. The results of these analyses indicate the presence of chromium at a concentration greater than the Surface Water Quality Criteria (SWQC) in one sample (SW-12) that was collected immediately adjacent to the stone-covered area where Maxus constructed an IRM for COPR soils. Chromium concentrations in samples collected downstream of this location are less than the SWQC. The 1,2,4-trichlorobenzene concentration in the surface water sample collected furthest from the river (SW-21) also exceeded its SWQC. Concentrations of 1,2,4-trichlorobenzene in the downstream samples are less than the SWQC.

Other than the aforementioned two exceedances, concentrations of COIs in the drainage ditch surface water samples collected by EPA are less than the respective SE2 SWQC.

Existing analytical data are considered adequate to characterize surface water conditions at the Site. An Interim Response Action is planned for the drainage ditch to address potential impacts.

6.9 AREA OF CONCERN 9 – HACKENSACK RIVER SURFACE WATER

EPA collected four samples of water discharging to the Hackensack River during its October 2002 investigation of the SCCC Site. Three locations adjacent to the SCCC Site (designated SW-1 through SW-3) were sampled. The fourth location (SW-4) was located north of the SCCC Site and was designated by EPA as a "background" location.

Split surface water samples were collected by Tierra at these locations. The split samples were analyzed for total and hexavalent chromium.

Appendix E includes a sample location map and Section E.6 of Appendix E includes data tables summarizing the results of the analyses of the Hackensack River surface water. A sample of surface water seepage along the bank of the Hackensack River collected by EPA (SW-01) contained total chromium at a concentration of 3 mg/L, which is slightly less than the NJDEP Class SE2 SWQC of 3.23 mg/L. Total chromium was measured at concentrations of 2.09 and 0.855 mg/L, respectively, in the primary and duplicate Tierra split samples collected from this location. Hexavalent chromium was not detected in the Tierra split samples collected from this location at a detection limit of 0.010 mg/L.

Chlorinated aromatic hydrocarbons were also detected in these samples. However, concentrations of these constituents are much less than their respective SE2 SWQC. Naphthalene concentrations in the surface water samples collected along the bank of the river ranged from less than the method detection limit (SW-01) to 0.045 mg/L (SW-02). There is no SWQC for naphthalene specified in N.J.E.C 7:9B.

Sampling of surface water in the Hackensack River was biased towards locations where the greatest impact, if any, would be expected and no exceedances of the SWQC were reported. As a result, no additional investigation of the Hackensack River is planned pursuant to implementation of the Phase II SRI.

6.10 AREA OF CONCERN 10 – DRAINAGE DITCH SEDIMENT

The EPA collected sediment samples at the same 17 locations where surface water samples were collected within the drainage ditch network and the hydraulically connected wetland on the Seaboard Site. For discussion purposes only, comparison of the sediment concentration is made to the NJDEP Marine/Estuarine Screening Guidelines, Effects Range-Median (ER-M) criterion, as these criteria are used for screening purposes, are not enforceable environmental standards, and should not be construed as remediation standards that are applicable to these Sites.

Appendix E includes a sample location map and Section E.6 of Appendix E includes data tables summarizing the results of the analyses of the drainage ditch sediment samples. Chromium concentrations exceed the ER-M in all 17 samples. Naphthalene concentrations greater than the ER-M were reported in nine (9) of the 17 samples. Dioxin concentrations in the sediment samples collected on the SCCC Site were in many instances (eight of the seventeen samples collected within the ditch system), less than the background Dioxin concentration measured at the EPA-designated background location (S-04) within the river (0.000008 mg/kg). Of the nine samples where Dioxin concentrations exceeded the background concentration, only four samples contained Dioxin concentrations greater than 0.000080 mg/kg. Three of these samples were taken in the open water "wetland" which is hydraulically connected to the ditch and located on the adjacent Seaboard Site. Dioxin concentrations in the remaining five samples were only slightly greater than the background concentration and ranged from 0.000009 to 0.000050 mg/kg.

The Dioxin investigation completed by the NJDEP identified only two areas on the SCCC Site where Dioxin was present (lagoon solids and the former distillation building area). Migration of Dioxin-impacted media from these areas to drainage ditches is unlikely.

Dioxin was not detected in any of the samples that were collected from monitoring wells installed around the perimeter of the lagoon. The results of groundwater analyses conducted by Weston during the RI are indicative of the immobility of Dioxin in groundwater. The lagoons were constructed below the surrounding ground elevation. Hence, it is unlikely that Dioxin from the lagoon solids would have been transported to the sediments via storm water runoff. The solubility of Dioxin in water is extremely low and it is immobile in groundwater due to its affinity for adsorption to organic carbon in the aquifer matrix. As a result, transport of Dioxin to sediments by a groundwater migration pathway is not viable.

The topography surrounding the distillation building is relatively flat, and is therefore not conducive to transport of impacted soil via overland flow. The distance from the distillation building to the branch of the southern ditch is approximately 500 feet and as a result of the relatively flat topography, it is unlikely that Dioxin from this area has been transported to the sediments via overland flow. In addition, because of the low solubility and low mobility of Dioxin in groundwater, it is unlikely that the Dioxin was transported to the sediments via groundwater migration and discharge. The absence of Dioxin in surface soil samples collected between drainage ditches and the potential source areas where Dioxin was previously detected (i.e., the lagoon and the distillation building area) suggest that migration of Dioxin from these areas has not occurred.

Existing analytical data are considered adequate to characterize sediment impacts in the drainage ditch. Additional investigation data will be collected for waste classification purposes during the implementation of the IRAW. An Interim Response Action is planned for the drainage ditch to address potential impacts.

6.11 AREA OF CONCERN 11 – HACKENSACK RIVER SEDIMENT

The near-shore sediments in the Hackensack River were characterized via sampling and analyses conducted by Enviro-Sciences, Inc. (ESI)[3] in 2000 and by EPA in 2002.

ESI collected surficial sediment samples from nine locations in the Hackensack River adjacent to the site. These samples were analyzed for VOCs, base/neutral extractable organic compounds (including a scan for Dioxin), priority pollutant metals, hexavalent chromium, total organic carbon (TOC), and particle size distribution. The analytical data were provided to the NJDEP in a submittal dated October 23, 2000.

The EPA collected sediment samples at three locations adjacent to the SCCC Site (designated S-1 through S-3). A fourth location (S-4) was located north of the SCCC Site and was designated by EPA as a "background" location. Sediment samples collected by EPA were analyzed for TCL VOCs, TCL SVOCs, TAL metals, pesticides and PCBs, dioxins and furans, and TOC. Tierra collected split sediment samples at the locations sampled by EPA and analyzed the samples for hexavalent chromium by EPA SW-846 Methods 3060/7199.

Appendix E includes a sample location map and Section E.6 of Appendix E includes data tables summarizing the results of the analyses of the Hackensack River sediment. The results of the sampling and analyses completed by ESI and EPA indicate that chromium concentrations in the near-shore Hackensack River surficial sediments exceed the ER-M criterion at eight of nine locations sampled by ESI and in each of the three (3) samples collected by EPE. Hexavalent chromium was not detected in any of the split samples analyzed by Tierra. Naphthalene concentrations exceed the ER-M criterion in eight (8) of these twelve (12) samples. Dioxin was detected in the three surficial sediment samples collected by EPA at concentrations ranging from 0.000040 mg/kg to 0.000096 mg/kg.

[3] Enviro-Sciences, Inc., November 2000, Remedial Action Workplan.

Additional investigation of the near-shore Hackensack River sediments is planned pursuant to implementation of the IRAW. Supplemental characterization of the sediments will also be completed during the Phase II SRI as discussed in Section 9.

6.12 AREA OF CONCERN 12 – TRANSFORMER AREA

As part of the RI, Weston collected a sample of "sediment" from the surface of a concrete pad in a former transformer area. This sample was analyzed for PCBs. A concrete chip sample of the transformer pad and samples of surrounding surface soils were collected for laboratory analysis as part of the Supplemental RI. These samples were also analyzed for PCBs.

Appendix E includes a sample location map and Section E.7 of Appendix E includes data tables summarizing the results of the analyses of these transformer pad area samples. The results of the concrete chip sample indicated concentrations of PCBs greater than the NRDCSCC. PCBs were not detected in the surrounding surface soil samples.

Existing analytical data are considered adequate for characterization of this AOC. Remediation of this area, including the collection of confirmation samples, is planned during implementation of the Interim Response Action. No additional data collection activities are planned for the Phase II SRI.

7.0 AREA OF CONCERN SAMPLING SUMMARY

As discussed in the preceding section, additional investigation of multiple Areas of Concern is planned for the Phase II SRI. The following Areas of Concern will be investigation during the Phase II SRI:

- Area of Concern 2 - Western Area Soil;
- Area of Concern 3 - Eastern Area Soil;
- Area of Concern 4 - Shallow Fill Unit Groundwater;
- Area of Concern 5 - Deeper Sand Unit Groundwater;
- Area of Concern 7 - Dense Non-Aqueous Phase Liquid; and,
- Area of Concern 11 - Hackensack River Sediments.

Note that additional Site data will also be collected pursuant to implementation of the IRAW. Collection of data during IRAW implementation will provide additional information regarding the following Areas of Concern:

- Area of Concern 1 - Lagoon Solids;
- Area of Concern 2 - Western Area Soil;
- Area of Concern 3 - Eastern Area Soil;
- Area of Concern 4 - Shallow Fill Unit Groundwater;
- Area of Concern 5 - Deeper Sand Unit Groundwater;
- Area of Concern 7 - Dense Non-Aqueous Phase Liquid;
- Area of Concern 10 - Drainage Ditch Sediments;
- Area of Concern 11 - Hackensack River Sediments; and
- Area of Concern 12 – Transformer Area.

Existing information collected as a result of historical investigations is sufficient for characterization of Areas of Concern 6, 8, and 9.

In accordance with N.J.A.C. 7:26E-4.2(b)6, a comprehensive sampling summary table has been prepared for the Phase II Supplemental Remedial Investigation. This table is provided as Table 7-1 and includes the following information on a sample-specific basis:

- Location
- Matrix
- Sample Depth
- Analytical Parameters
- Sampling Method

Detailed information regarding the scope of the investigation and plan view maps depicting sampling locations are provided in Sections 8.0 and 9.0 (Sampling Locations and Supplemental Sampling, respectively). Alpha-numeric sample designations corresponding to those used in Table 7-1 are used on the sample location maps.

In addition, a table summarizing other relevant information for the samples has been prepared. Table 7-2 lists the specific analytical methods, bottle requirements, preservation requirements, and holding time requirements for the various analyses. Note that Tables 7-1 and 7-2 comprise applicable tables for the Quality Assurance Project Plan and Field Sampling Plan, as discussed in Section 10.0.

Note that collection of data during implementation of the associated IRAW will result in the generation of a substantial amount of information that will be relevant to the Phase II SRI. Some specific IRAW-related activities, including groundwater sampling and analysis and sediment sampling and analysis will consist of collection of samples from the same locations as those that are planned during the Phase II SRI. To the extent practicable, the IRAW and Phase II SRI sampling and analysis activities will be coordinated to preclude multiple mobilizations and generation of redundant data.

8.0 PROPOSED SAMPLING LOCATIONS

As previously indicated, multiple Site investigations have been completed since 1983. In addition, a substantial amount of investigative work will be completed in conjunction with the planned Interim Response Action, as outlined in the IRAW that is currently under review by the NJDEP. It is planned that several of the Phase II SRI samples will be obtained during implementation of the IRAW as previously shown in Table 7-1. Specifically, sediment samples from the Hackensack River and subsurface soil samples from geotechnical borings GT-1 through GT-7 will support both the Phase II SRI and the IRAW. In addition, DNAPL samples from wells MW-3L and MW-13L will support both the Phase II SRI and the IRAW. To preclude any schedule delays, samples from these locations will be collected and analyzed at risk (for the entire suite of IRAW and Phase II SRI parameters) in the event that the IRAW and SRIWP approvals do not coincide.

This section identifies additional investigative activities required to complete site delineation. The scope of the Phase II SRI activities has been developed via consideration of discussions during a January 12, 2005 meeting between NJDEP and Group representatives, via consideration of existing site data, and via consideration of NJDEP comments on previous plans, specifically, the May 2006 Interim Response Action Workplan (IRAW) and the October 2004 Pre-Design Investigation Workplan. The scope of work for the investigation has been developed to accomplish the following objectives.

- To define the extent of DNAPL within the fill and deeper sand units onsite and on adjacent properties;
- To complete groundwater quality characterization Site-wide and in off-site down-gradient areas; and,
- To complete surface and subsurface soil delineation onsite and on adjacent properties.

The remainder of this section discusses DNAPL, groundwater, and surface/subsurface soil characterization activities, respectively. In addition to the preceding, additional characterization of near-shore Hackensack River sediments (above and beyond that proposed for the IRAW implementation) is also planned. The supplemental sampling activities for the near-shore Hackensack River sediments are discussed in Section 9.0 (Other Sampling Proposals).

8.1 DNAPL DELINEATION (AREAS OF CONCERN 2, 3, AND 7)

Multiple borings and subsurface soil sampling and analysis will be conducted to complete DNAPL delineation at the Site. The primary objectives of this investigation are to identify/confirm the extent of DNAPL impacts and to identify areas exhibiting the presence of potentially recoverable DNAPL. The boring program and sampling and analysis activities are discussed in the remainder of this subsection.

Boring Completion

A minimum of 21 additional soil borings (D-1 through D-21) will be completed to further delineate the limits of potentially recoverable DNAPL in the following areas:

- Off-Site to the south of Buildings 2 and 4;
- Off-Site to the southwest of monitoring well MW-3L;
- Off-Site in the southeastern portion of the Diamond Site;
- Off-Site between the former New York and Greenwood Lake Railroad Right-of-Way and the Hackensack River;
- On-Site west of the former New York and Greenwood Lake Railroad Right-of-Way and ROST borings R-30, R-31, and R-32;
- On-Site in the vicinity of Buildings 2 and 4; and
- The area north of the lagoon between the location of MW-7L and boring R-12.

The locations of these proposed soil borings are depicted on Figure 8-1. DNAPL delineation will address both the shallow fill and the deeper sand unit. As the investigation progresses, additional borings may be added to the program should it be determined that such borings are necessary to complete the DNAPL delineation. The DNAPL delineation effort will be supplemented by the observations made during installation of landside soil borings to be completed during implementation of the IRAW.

Borings will be advanced to the top of the varved clay layer (a depth of approximately 20 feet bgs) using HSA techniques. In areas where COPR soil occurs, temporary steel casing will be keyed into the meadow mat prior to advancement beneath the fill materials to eliminate the potential for impacts to the deep sand aquifer. The casing will be set in a bentonite slurry seal at the meadow mat-fill interface.

Subsurface Soil Sampling and Analysis

Continuous split spoon samples will be obtained throughout the entire depth of each borehole to accommodate visual determination of the presence/absence of potentially recoverable DNAPL. If the presence of DNAPL is not observed in a given borehole, a soil sample will be collected from the interval directly above the varved clay for laboratory analysis to confirm that DNAPL is not present. If DNAPL is noted at the base of the deeper sand within a given boring, a sample will be obtained from the varved clay to determine if DNAPL has penetrated the clay to any extent. These samples will be analyzed for TCL VOCs, TCL SVOCs, and TAL metals. In addition, two varved clay samples are planned for onsite Borings D-14 and D-15. These samples will be analyzed for TCL VOCs, TCL SVOCs, TAL metals, and hexavalent chromium. Analytical data (i.e., TCL VOCs and TCL SVOCs) obtained from these borings will be reviewed as an additional indicator of the presence or absence of DNAPL.

Some of the boreholes where DNAPL is not encountered may be converted to monitoring wells. These wells will be installed to further define the extent of dissolved phase groundwater impacts beyond the areas of DNAPL impact. The total depth of these wells is assumed to be twenty-two feet to allow for the screen section to extend across the sand unit-varved clay interface to permit the detection of any DNAPL that may be migrating at this depth interval. Monitoring wells will be constructed of two-inch diameter polyvinyl chloride (PVC) screen and riser with a five-foot screen length. Monitoring well permits will be obtained and construction will be completed by a driller licensed in the State of New Jersey. Well construction will be in accordance with N.J.A.C. 7:9D, the FSP (see Section 10.0), and the 2005 NJDEP Field Sampling Procedures Manual (FSPM).

All borings will be abandoned with a cement-bentonite mixture placed using the tremie method. Visually impacted soil cuttings will be containerized for subsequent management. All drilling locations will be staked for subsequent surveying. Following the installation and development of the monitoring wells, a site-wide round of groundwater elevation and apparent DNAPL thickness measurements will be completed.

DNAPL Sampling and Analysis

DNAPL characterization sampling proposed by Brown and Caldwell in the July 2001 RI Work Plan Addendum for Site 116 has been incorporated into the scope of work for this Phase II SRI. Specifically, six DNAPL samples will be obtained from existing monitoring wells for TCL VOC, TCL SVOC, and total and hexavalent chromium analysis. These samples will be obtained from wells MW-3L, MW-4L, MW-8L, MW-12L, MW-13L, and MW-14L. DNAPL samples for physical characterization will be obtained from wells MW-3L and MW-13L during implementation of the IRAW. To the extent practicable, the DNAPL chemical characterization samples for these wells will be obtained at the same time as the physical characterization samples.

8.2 GROUNDWATER DELINEATION (AREAS OF CONCERN 4 AND 5)

To complete groundwater delineation at the SCCC Site, a series of four deeper sand unit monitoring wells (MW-18L through MW-21L) will be installed to the south of the SCCC Site on the adjacent Seaboard Site (Figure 8-1) and a comprehensive groundwater sampling/analysis and water level measurement event will be completed. Because the shallow fill groundwater in the southern portion of the SCCC Site is known to discharge to the ditch separating the two properties, no shallow fill wells are proposed for the northern portion of the Seaboard Site.

Monitoring Well Installation

The deeper sand unit monitoring wells will be completed at an elevation just below the sand-varved clay contact which is typically found at a depth of approximately 20 feet. Well drilling will be completed by HSA techniques supplemented by continuous split-spoon sampling. Each boring will be logged by an onsite geologist utilizing the Unified Soil Classification System.

The monitoring well, filter pack, and well seal will be installed through the hollow stem auger drill string. A weighted tape will be utilized throughout the procedure to measure depth of pipe and annular materials. The auger string will be gradually and methodically removed from the borehole as the installation of various annular materials progresses.

Two-inch diameter schedule 40 PVC screen and riser will be utilized for well construction. For each well, the well screen interval will be five feet long and will extend upward from approximately six-inches below the sand-varved clay contact into the sand unit. Upon completion of well installation, each monitoring well will be developed to remove fine sediment resulting from the drilling process. Development water will be collected and discharged to the lagoons. Upon completion of drilling activities, all wells will be surveyed horizontally and vertically. Wells will be surveyed by a surveyor licensed in the State of New Jersey to ±0.01 feet and ±0.1 feet vertical and horizontal accuracy, respectively.

Fill Unit Groundwater Sampling and Analysis

Groundwater samples will be obtained for chemical analysis from 20 existing upper (fill) zone monitoring wells (Table 7-1) located on the SCCC and Diamond Sites and one well located on

Site 48 to the west of the SCCC Site. These samples will be obtained to provide information regarding the horizontal extent of groundwater impact in the fill unit. Samples will be obtained using low flow sampling techniques in accordance with the FSP and FSPM. Samples will be analyzed for TCL VOCs, TCL SVOCs, total TAL metals, cyanide, total and dissolved total and hexavalent chromium, Oxidation-Reduction Potential, and pH. Analyses will be completed in accordance with the QAPP (see Section 10.0).

Water level and apparent DNAPL thickness measurements will also be obtained prior to the sampling event. The specific fill zone wells to be sampled are depicted on Figure 8-2. Note that sampling and analysis of six of these wells is planned in support of IRAW implementation. To the extent practicable, these sampling activities will be coordinated to avoid generation of redundant groundwater information.

Deeper Sand Unit Groundwater Sampling and Analysis

Groundwater samples will be obtained from 31 deeper sand zone monitoring wells (Table 7-1) located on the SCCC and Diamond Sites, from four new monitoring wells installed on the adjacent site (Seaboard) to the south and from one well located on Site 48 to the west of the SCCC Site. These samples will be obtained to provide information regarding the horizontal extent of impact in the lower (deeper sand) zone. Samples will be obtained using low flow sampling techniques. Samples will be analyzed for TCL VOCs, TCL SVOCs, total TAL metals, cyanide, total and dissolved total and hexavalent chromium, oxidation reduction potential, and pH.

Water level and apparent DNAPL thickness measurements will also be obtained prior to the sampling event. The specific lower zone wells to be sampled are depicted on Figure 8-2. Note that sampling and analysis of six of these wells is planned in support of IRAW implementation. To the extent practicable, these sampling activities will be coordinated to avoid generation of redundant groundwater information.

8.3 SOIL DELINEATION (AREAS OF CONCERN 2 AND 3)

Additional surface and subsurface soil sampling is planned for the Phase II SRI to accommodate lateral and vertical delineation activities at the Site. The scope of the surface and subsurface soil sampling and analysis programs is discussed in the remainder of this subsection.

Surface Soil Sampling and Analysis

To supplement existing data, eleven additional surface soil samples (denoted as SC-SS-01 through SC-SS-11) will be collected from the study area. Four of the locations are off-Site along the northern edge of the Seaboard Site and will supplement information collected in July 2008 during the IRAW pre-design investigation on the Seaboard Site. The remaining seven locations are located onsite to the west and south of the former lagoon and along the northern property boundary, as depicted on Figure 8-1. The samples will be collected from the 0 to 0.5 foot interval and will be analyzed in accordance with the procedures outlined in the QAPP. The samples will be analyzed for semi-volatile organic compounds (including naphthalene, other PAHs, and chlorinated benzenes), Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), PCBs, total and hexavalent chromium, Oxidation Reduction Potential, and pH. All sampling locations will be marked and staked for subsequent survey.

Vertical Delineation Soil Sampling and Analysis

To complete vertical delineation, samples will be obtained to investigate the extent and vertical migration of organic constituents and to supplement existing data regarding the lateral and vertical extent of chromium impacts. Sampling will be accomplished via a series of twenty-seven fill unit chromium delineation borings (denoted as CR-1 through CR-27) and three varved clay borings (VC-1 through VC-3). Samples will also be obtained from selected geotechnical borings (GT) where the borings occur in areas where additional data may be required for delineation. Figure 8-1 depicts the planned boring locations. To the extent practicable, soil samples will be obtained from discrete 6-inch intervals subject to constraints imposed by the volume of sample required to complete the analyses. The various types of borings to be completed are discussed in the remainder of this subsection.

Fill Unit Soil Borings (CR-1 through CR-27) - The borings will be advanced to the top of the meadow mat to accommodate the collection of samples of fill material and the meadow mat. These boring locations represent the six locations proposed by Brown and Caldwell in the July 2001 Remedial Investigation Work Plan plus one additional boring (CR-7) along the western boundary of the site as requested by NJDEP in the General Comments pertaining to the October 2004 Pre-Design Investigation Workplan as well as twenty additional borings to delineate chromium impacts on the adjacent Seaboard Site.

Borings will be advanced using a hollow stem auger with continuous split spoon sampling or via direct push techniques with collection of continuous two or four foot core samples. Sampling will be conducted in accordance with the FSP. Samples will be obtained from three specific depths at each of the planned locations: the surface interval (0-0.5 feet), from the depth where the water table is first encountered, and from the upper horizon of the meadow mat. The samples will be analyzed for total and hexavalent chromium, Oxidation Reduction Potential, and pH. Upon completion of sampling, each boring will be abandoned with a cement-bentonite grout, emplaced by the tremie tube method. Visually impacted drill cuttings will be containerized for subsequent management. All locations will be staked for subsequent survey.

Varved Clay Borings (VC-1 through VC-3) - Three varved clay borings will be advanced to define the vertical extent of site constituents. These borings will be advanced by hollow stem auger techniques with continuous split spoon sampling. Temporary steel casing will also be set and sealed into the meadow mat during drilling of the varved clay borings as previously described in Section 8.1.

Additionally, note that varved clay analytical samples will also be obtained from geotechnical borings GT-1, GT-2, GT-3, and GT-4 as well as from barrier wall borings BW-2, BW-3, BW-4, and BW-5 to be installed during implementation of the IRAW. At these locations, samples from within the varved clay will be obtained for laboratory analysis of the following constituents: TCL VOCs, TCL SVOCs, TAL metals, and hexavalent chromium.

9.0 OTHER SAMPLING PROPOSALS (AREA OF CONCERN 11)

In addition to the sampling discussed in Sections 7.0 and 8.0, additional characterization sampling and analysis is also proposed for the near-shore Hackensack River sediments. Multiple sediment samples will be obtained from the near-shore Hackensack River sediment bed as part of implementation of the IRAW. These samples will be obtained primarily for the purposes of assessing the potential use of the USEPA's Area of Contamination policy for onsite consolidation of the near-shore sediments. Additional analyses are proposed herein to address the requirements of N.J.A.C. 7:26E-4.7. To preclude any schedule delays, samples from these locations will be collected and analyzed at risk (for the entire suite of IRAW and Phase II SRI parameters) in the event that the IRAW and SRIWP approvals do not coincide.

The nine sediment sample locations planned for the IRAW were depicted on Figure 8-1. Two depth-specific samples will be collected from each location using a hand auger. One sample will be obtained from a depth of 0.0 to 1.0 feet. The volatile organic sample aliquot for this sample will be obtained from the 0.5 to 1.0 foot interval. A second sample will be obtained from a depth of 2.0 to 3.0 feet. The purpose of these samples is to delineate both the horizontal and vertical extent of sediment impacts. It is planned that additional analyses will be completed for these samples (as summarized in Table 7-1). The following additional analyses will be completed for the sediment samples to be obtained adjacent to the SCCC Site during IRAW implementation:

- Acid Volatile Sulfide/Simultaneously Extracted Metals*
- PCB Congeners and Homologues
- Pesticides and Aroclors
- Chlorinated Herbicides
- Total Extractable Petroleum Hydrocarbons
- Oxidation-Reduction Potential (ORP)

* Simultaneously Extracted Metals (Ag, Cd, Cu, Pb, Hg, Ni, and Zn)

Including the analyses planned for these sediment samples pursuant to the implementation of the IRAW, the samples will be analyzed for the following complete list of analytical parameters:

- Volatile Organics
- Semivolatile Organics
- TAL Metals*
- Cyanide
- Acid Volatile Sulfide/Simultaneously-Extracted Metals
- Hexavalent Chromium
- PCB Congeners and Homologues
- Pesticides and Aroclors
- Chlorinated Herbicides
- PCDDs/PCDFs
- Total Extractable Petroleum Hydrocarbons
- Total Organic Carbon
- pH
- ORP

* Target Analyte List Metals (Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Th, V, and Zn)
** Simultaneously Extracted Metals (Ag, Cd, Cu, Pb, Hg, Ni, and Zn)

The results of the sediment sampling and analysis will be presented and discussed in the Phase II SRI Report. Sediment results will be contrasted to appropriate sediment screening criteria. In addition, graphical depictions of the extent of potential sediment impacts will be prepared. An evaluation of potential migration pathways will also be completed. The analytical suite for the sediment samples is equivalent to that used for the Hackensack River Study Area (HRSA) Remedial Investigation and the results of the HRSA RI will be used as appropriate to identify background or reference sediment conditions.

10.0 QUALITY ASSURANCE PROJECT PLAN

A comprehensive Quality Assurance Project Plan (QAPP) was developed as a project planning document for the IRAW. The IRAW QAPP covers all aspects of sampling and analysis required pursuant to the Phase II Supplemental RI. Because the field work for the two investigations (i.e., the IRAW data acquisition and the Phase II SRI) will be coordinated and collected concurrently to the extent practicable, the IRAW QAPP and the associated Field Sampling Plan (FSP) are incorporated to this document by reference. The only required revisions to the IRAW QAPP and FSP are revised tables that outline the sampling and analysis requirements. These tables were previously presented as Tables 7-1 and 7-2 and constitute addenda to the IRAW QAPP and FSP, which were provided as Appendices D and E of the IRAW, respectively.

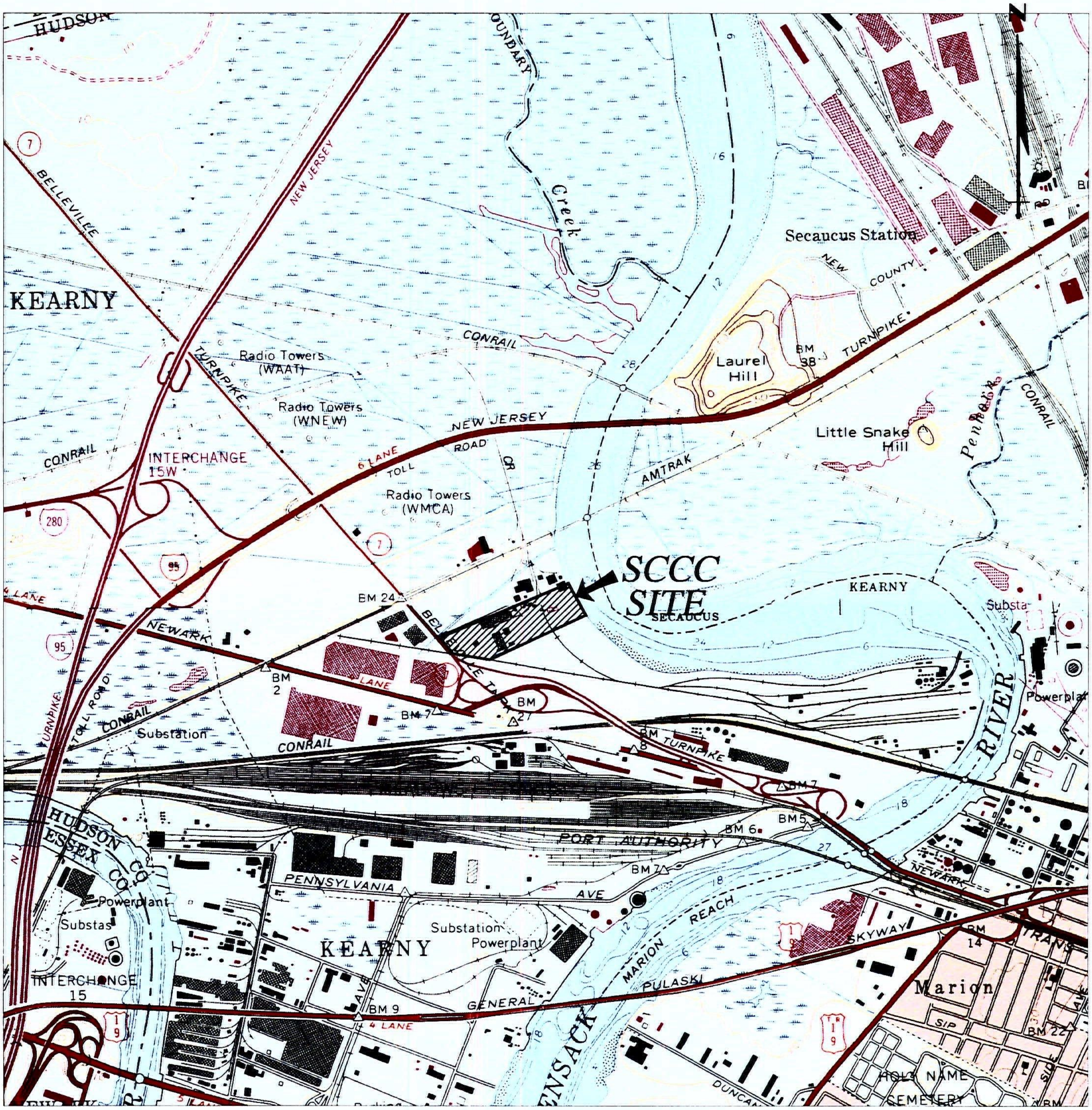
11.0 HEALTH AND SAFETY PLAN

A comprehensive Site- specific Health and Safety Plan was prepared and provided as Appendix C of the IRAW. The existing HASP covers all aspects of Site activities and is therefore incorporated to the SRIWP by reference.

REFERENCES

Key (Key Environmental, Inc.), April 1998. Remedial Action Work Plan - Former Koppers Seaboard Site, Kearny, New Jersey. Pittsburgh, Pennsylvania.

Weston (Roy F. Weston, Inc.) May, 1993. Draft Remedial Investigation for the Standard Chlorine Chemical Company, Inc. and Standard Naphthalene Products Inc. Properties, Kearny, New Jersey. West Chester, Pennsylvania.



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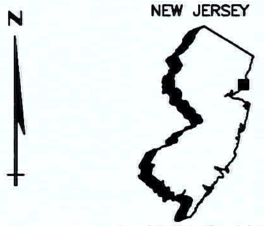


QUADRANGLE LOCATION

STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: GLC	DATE: 5/09/07
CHKD: RJH	DATE: 5/09/07
APPD: JSZ	DATE: 5/09/07
SCALE: 1"= 2000'	

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
SCCC SITE
KEARNY, NEW JERSEY

REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLES OF JERSEY CITY, AND WEEHAWKEN, NEW JERSEY (1967)

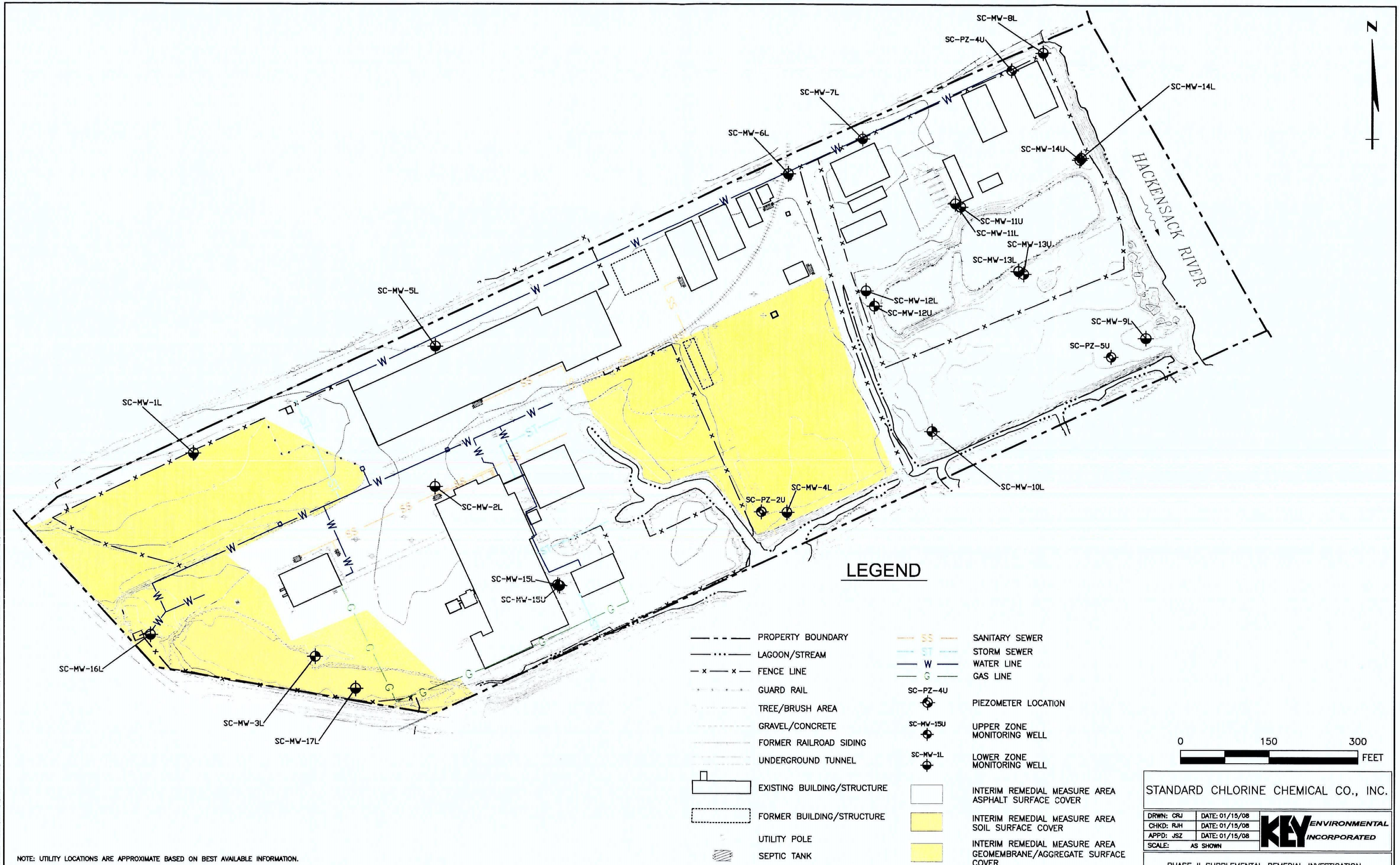
ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

SITE LOCATION MAP

PROJECT NO: 08-613

FIGURE 1-1



NOTE: UTILITY LOCATIONS ARE APPROXIMATE BASED ON BEST AVAILABLE INFORMATION.

REV #	DATE	DESCRIPTION	APPD
△			
△			
△			

REFERENCE:

1. EXISTING GROUND SURFACE ELEVATION CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: CRJ	DATE: 01/15/08
CHKD: RJH	DATE: 01/15/08
APPD: JSZ	DATE: 01/15/08
SCALE:	AS SHOWN

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
SCCC SITE
KEARNY, NEW JERSEY

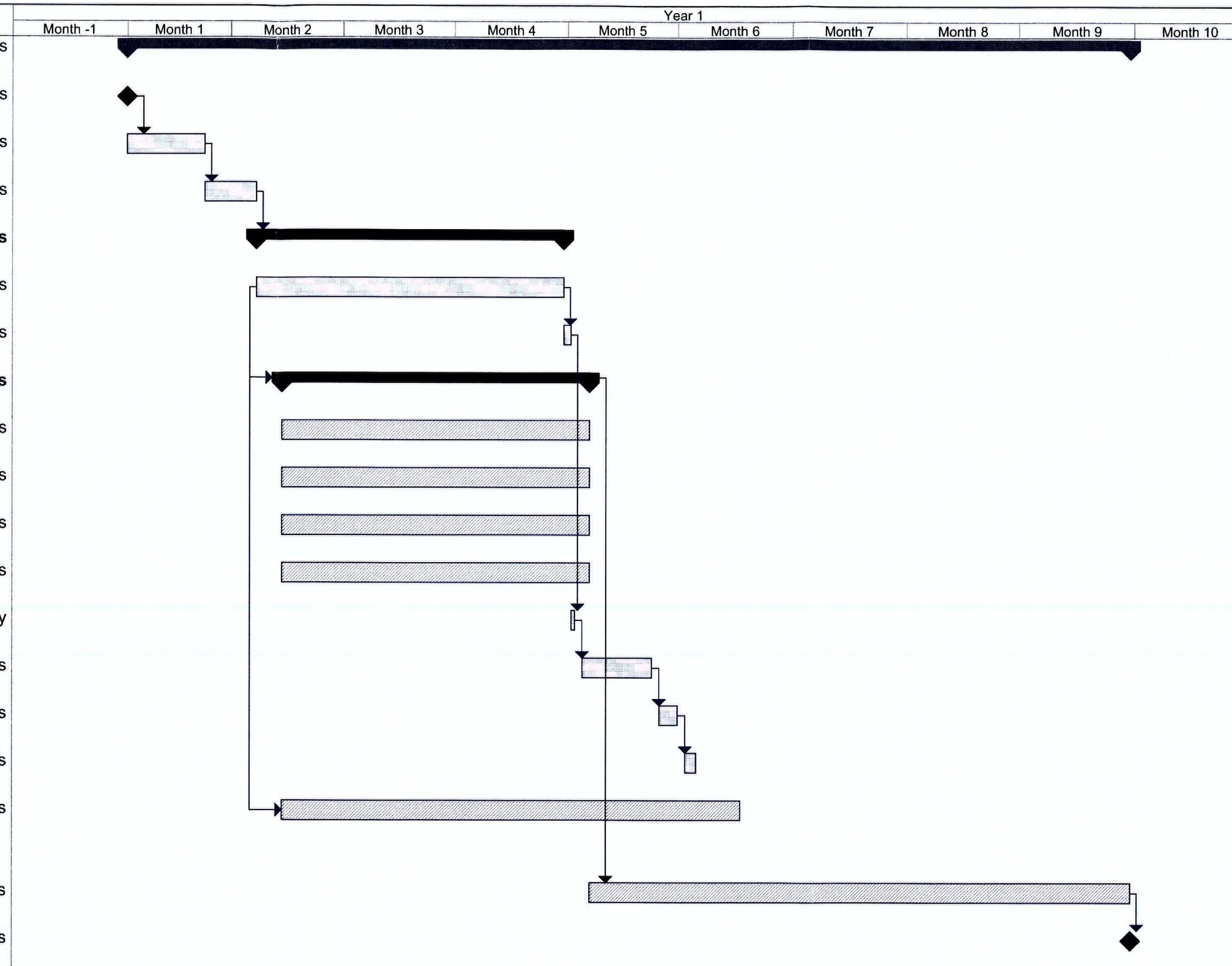
GENERAL SITE ARRANGEMENT

PROJECT NO: 08-613

FIGURE 1-2

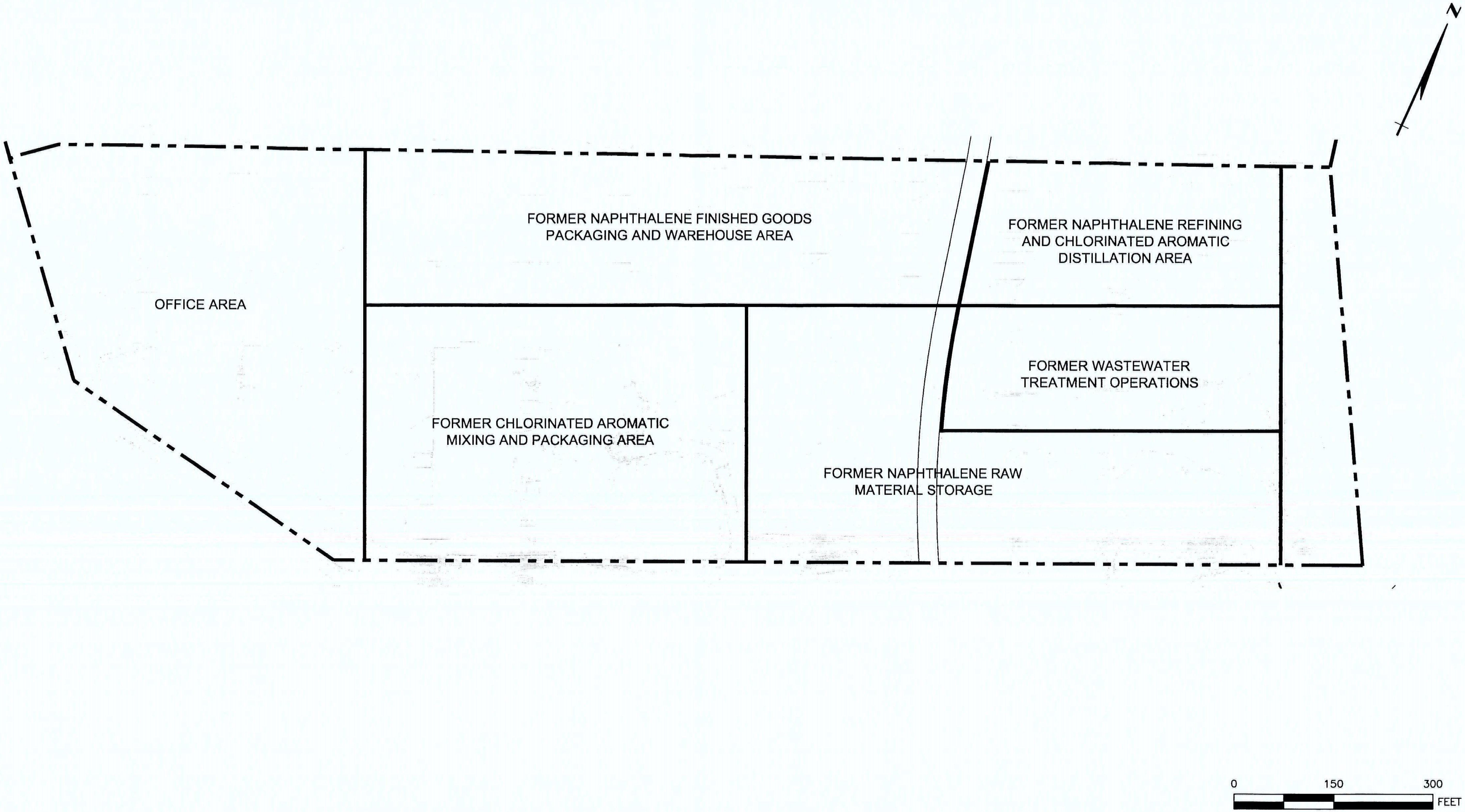
FIGURE 2-1
SCCC SITE PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION SCHEDULE

ID	Task Name	Duration
1	<u>**Phase II Supplemental Remedial Investigation (SRI)**</u>	194 days
2	**NJDEP Approval of Work Plan**	0 days
3	**Contractor Procurement**	15 days
4	**Mobilization**	10 days
5	**DNAPL Delineation Borings and Monitoring Well Installation**	**60 days**
6	Borings D-1 through D-21	60 days
7	**Well Development**	2 days
8	**Subsurface Soil Investigation**	**60 days**
9	Sampling - Borings VC-1 through VC-3	60 days
10	Sampling - Borings CR-1 through CR-7	60 days
11	Sampling - Borings GT-1 through GT-7*	60 days
12	Sampling - Borings BW-2 through BW-5*	60 days
13	**Site-Wide DNAPL and Water Level Measurements**	1 day
14	**DNAPL and Groundwater Sampling***	15 days
15	**Surface Soil Sampling**	5 days
16	**Sediment Sampling***	3 days
17	**Subsurface Soil, DNAPL, Groundwater, Surface Soil, and Sediment Analysis**	89 days
18	**Prepare Draft Phase II SRI Report**	104 days
19	**Submit Draft Phase II SRI Report**	0 days



Task | Milestone | Summary | Intermittent Task | Project Summary

*To the extent practicable, these Phase II SRI sampling activities will be coordinated with IRAW activities



STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: WAA	DATE: 02/26/08
CHKD: RJH	DATE: 02/26/08
APPD: JSZ	DATE: 02/26/08
SCALE: AS SHOWN	

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN
KEARNY, NEW JERSEY

REV #	DATE	DESCRIPTION	APPD

REFERENCE:

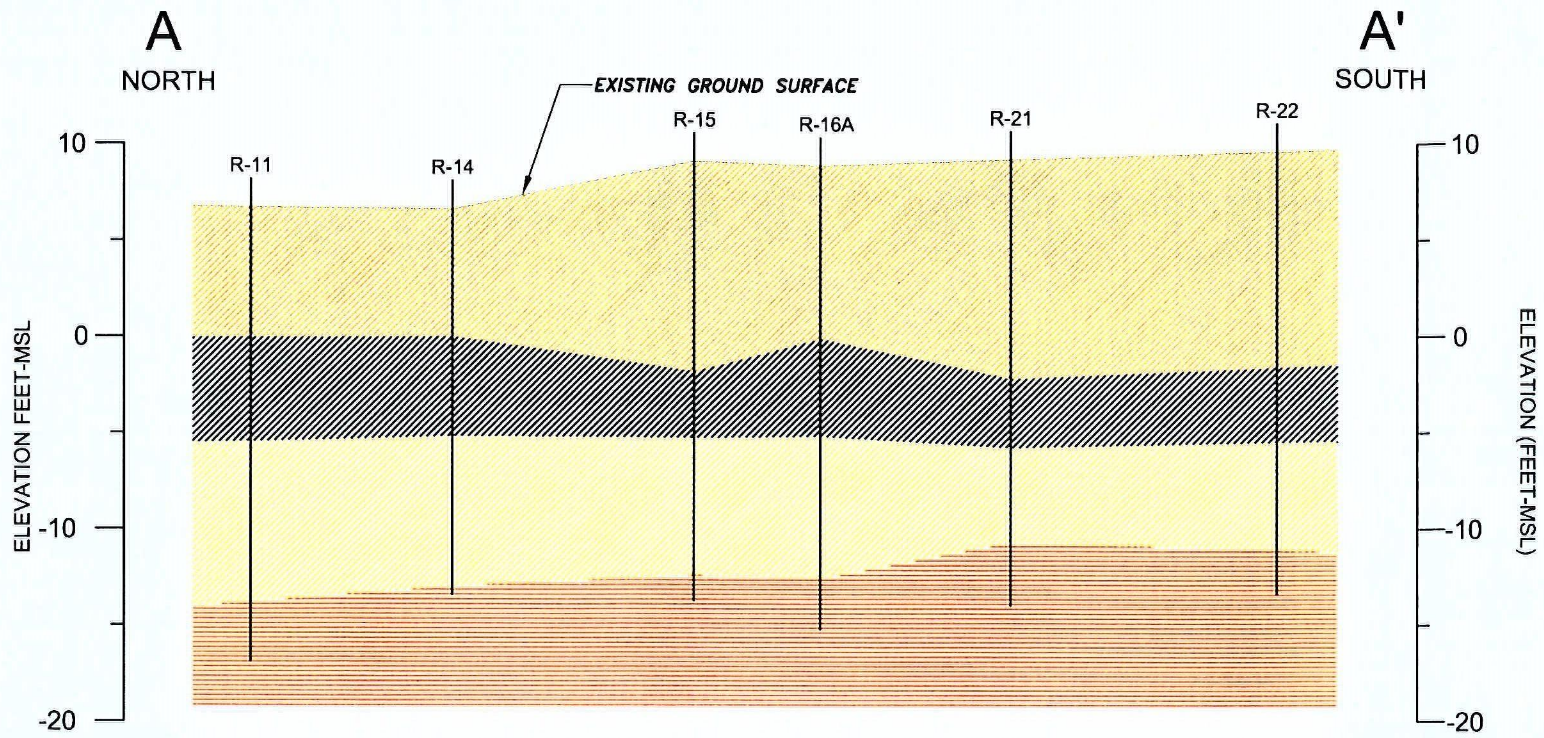
ISSUE DATE:

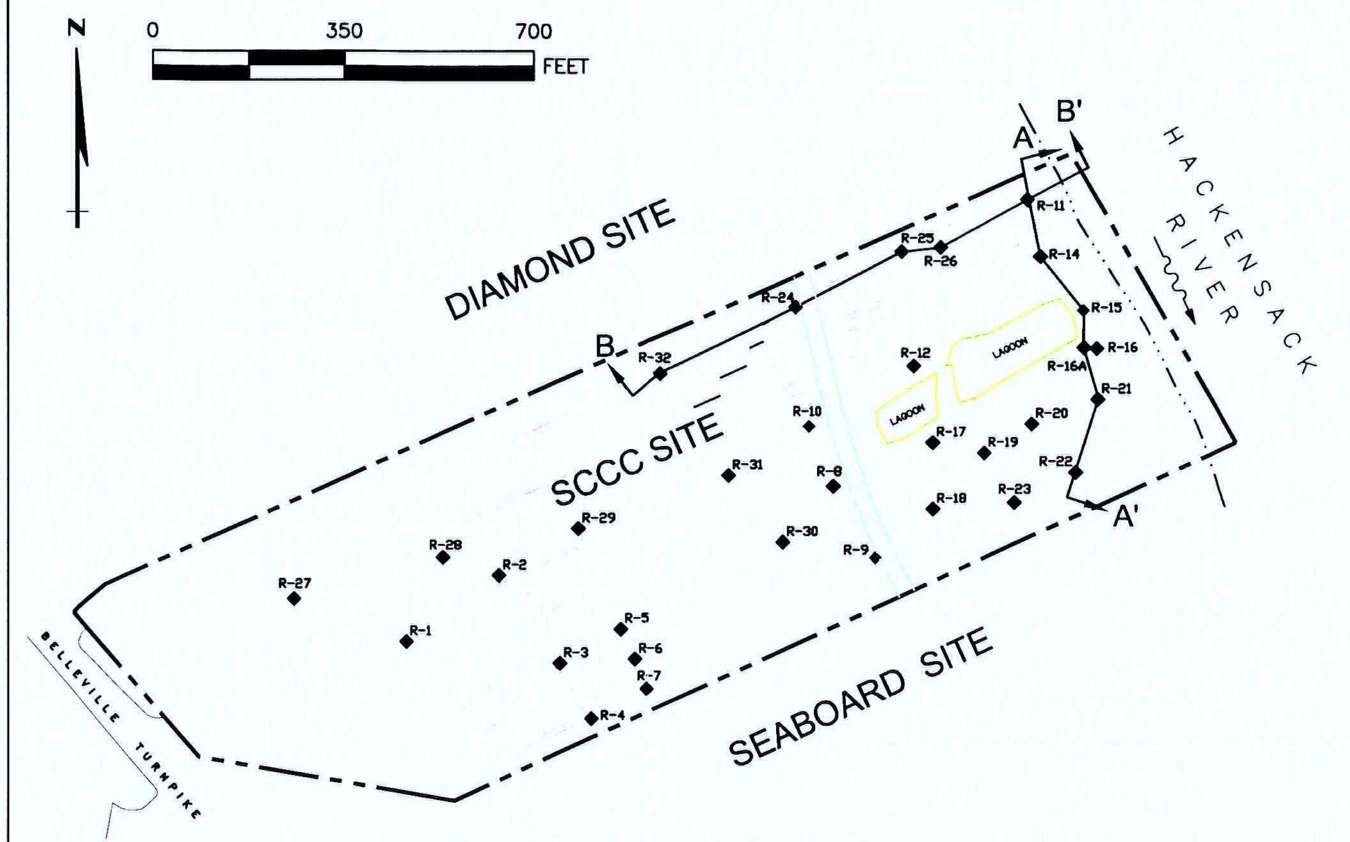
KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

HISTORICAL SITE OPERATIONS

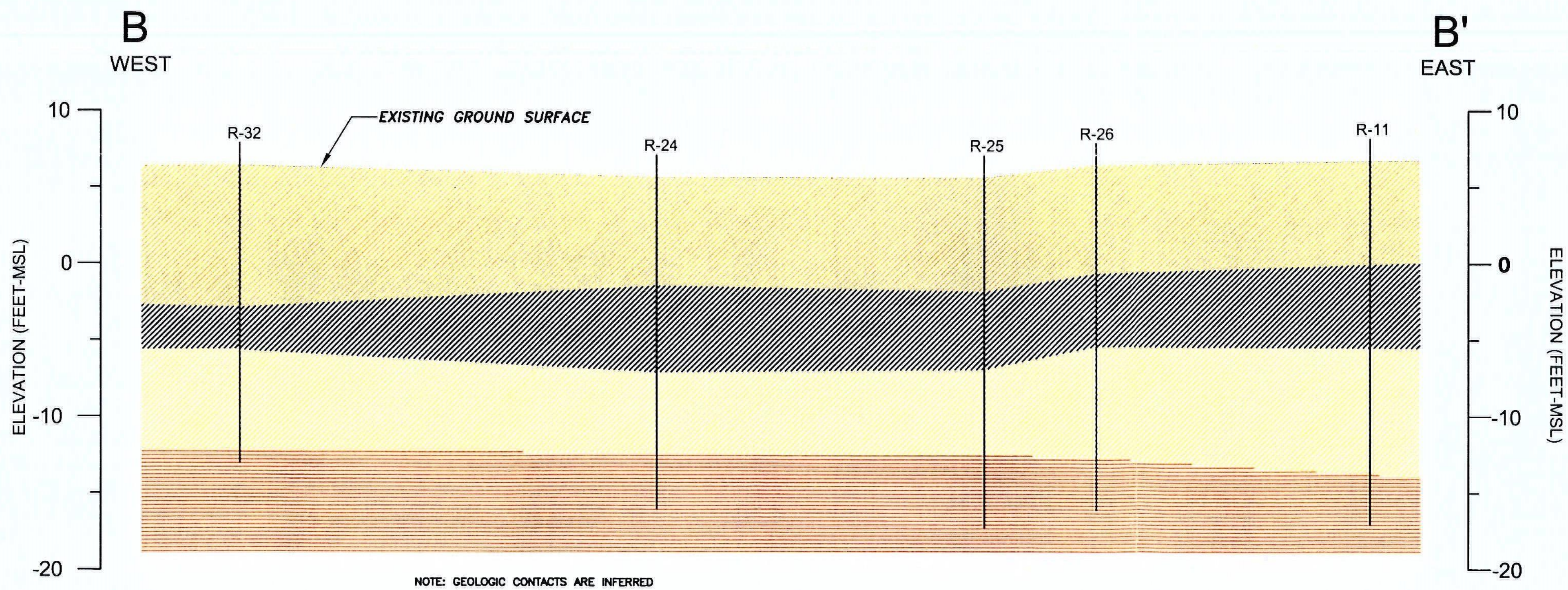
PROJECT NO: 08-613

FIGURE 4-1





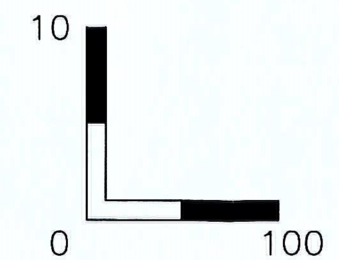
CROSS-SECTION LOCATION MAP



NOTE: GEOLOGIC CONTACTS ARE INFERRED

LEGEND

SHALLOW (COPR SOIL) FILL MATERIAL	R-16A ROST BORING LOCATION
MEADOW MAT	SITE BOUNDARY
	STRUCTURES/BUILDINGS
DEEPER FINE SAND	RIGHT OF WAY
	R-27 ROST BORING LOCATION
VARVED CLAY	B B' CROSS SECTION LOCATION



SCALES IN FEET

REV #	DATE	DESCRIPTION	APPD

REFERENCE: 1. STANDARD CHLORINE CHEMICAL COMPANY SITE SURVEY, NEGLIA ENGINEERING ASSOCIATES, JANUARY 1999. ADDITIONAL BUILDING LOCATIONS OBTAINED FROM ERM, INC. FIGURES 1, 3–1, 3–2, 3–3 AND 3–4, PROPOSED REMEDIAL ACTION PLAN, STANDARD CHLORINE SITE, KEARNY NEW JERSEY.

2. VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: CRJ	DATE: 01/15/08
CHKD: RJH	DATE: 01/15/08
APPD: JSZ	DATE: 01/15/08
SCALE:	AS SHOWN

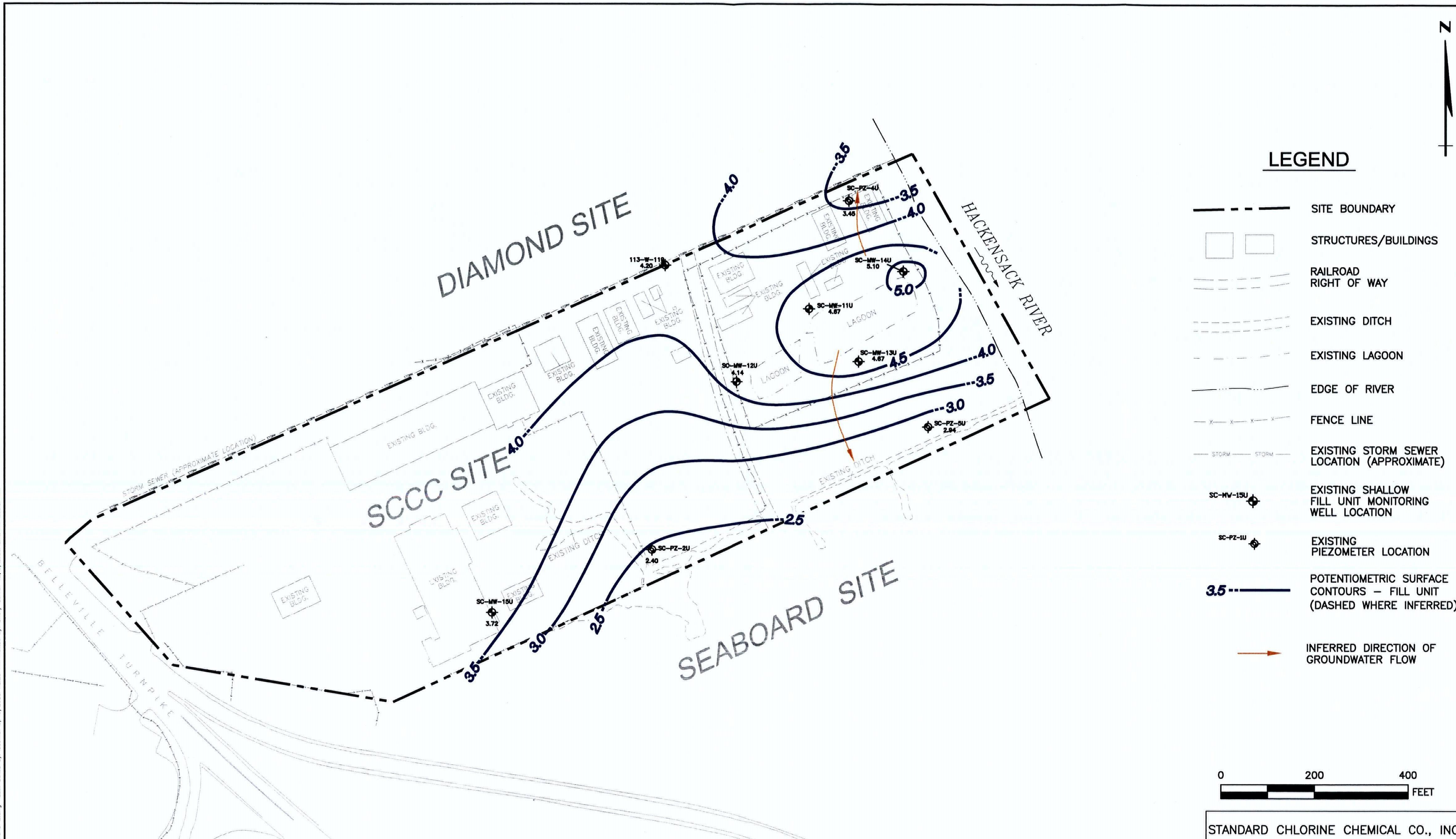
KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
SCCC SITE
KEARNY, NEW JERSEY

GEOLOGIC CROSS-SECTIONS AND LOCATIONS

PROJECT NO: 08-613

FIGURE 5-1



NOTE: WATER LEVELS MEASURED ON FEBRUARY 2, 1999.

REV #	DATE	DESCRIPTION	APPD
3			
2			
1			

REFERENCE: 1. VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: WAA	DATE: 02/29/08
CHKD: RJH	DATE: 02/29/08
APPD: JSZ	DATE: 02/29/08
SCALE:	AS SHOWN

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
SCCC SITE
KEARNY, NEW JERSEY

POTENTIOMETRIC SURFACE MAP
FILL UNIT

PROJECT NO: 08-613
FIGURE 5-2

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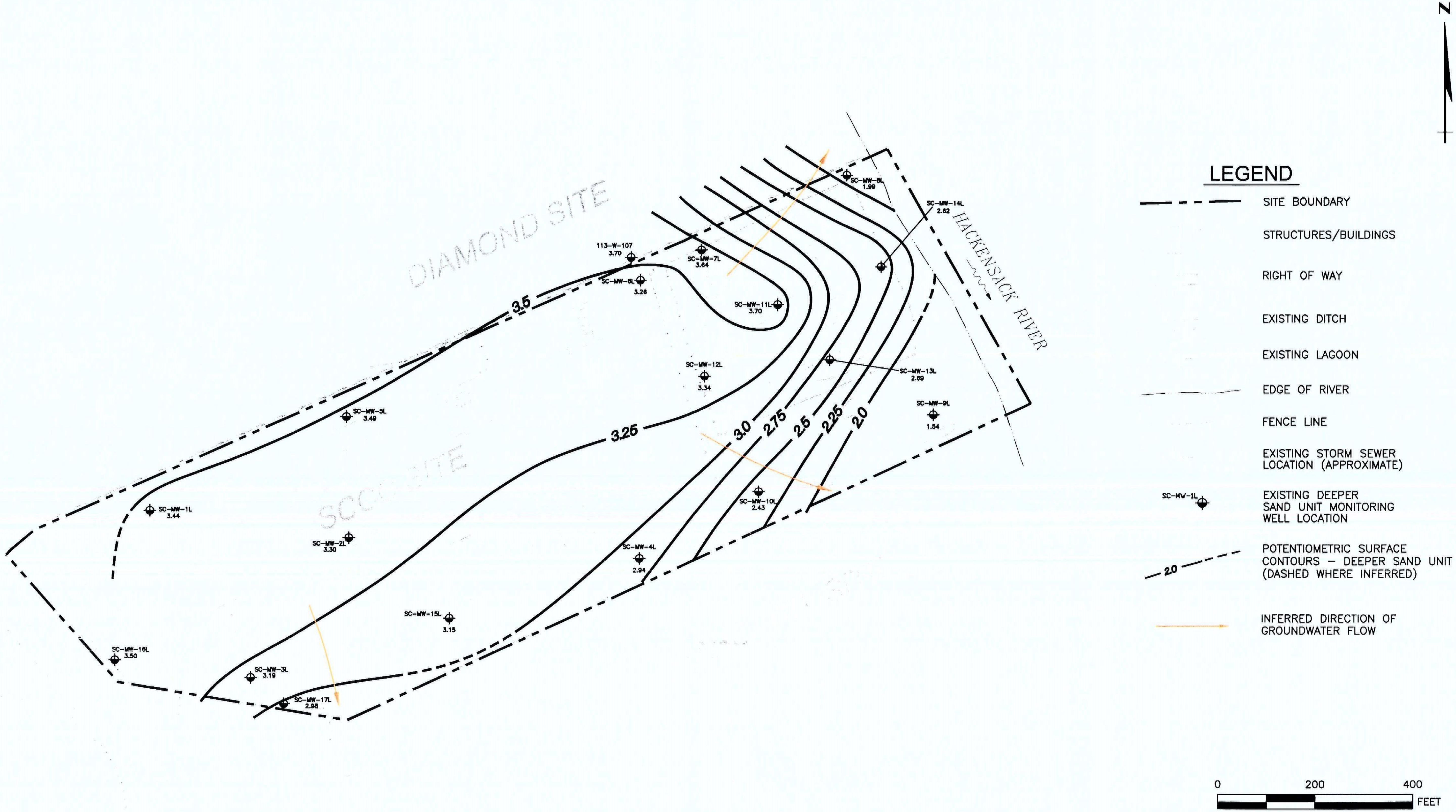

NOTE: WATER LEVELS MEASURED ON FEBRUARY 2, 1999.

REFERENCE: 1. VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).

REV #	DATE	DESCRIPTION	APPD
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ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

STANDARD CHLORINE CHEMICAL CO., INC.

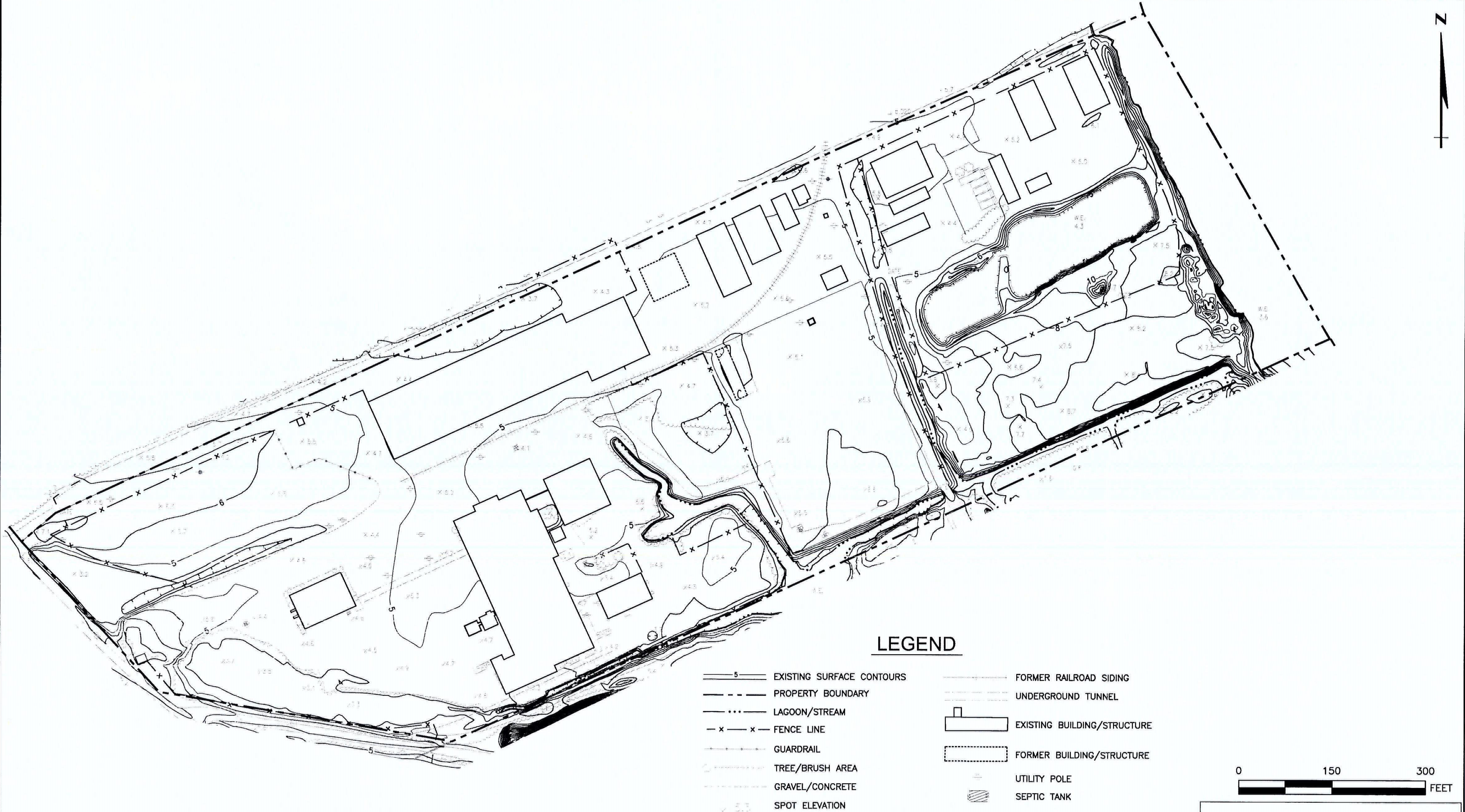
DRWN: CRJ	DATE: 01/15/08
CHKD: RJH	DATE: 01/15/08
APPD: JSZ	DATE: 01/15/08
SCALE:	AS SHOWN

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
SCCC SITE
KEARNY, NEW JERSEY

POTENTIOMETRIC SURFACE MAP
DEEPER SAND UNIT

PROJECT NO: 08-613
FIGURE 5-3



STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: CRJ	DATE: 01/15/08	KEY ENVIRONMENTAL INCORPORATED
CHKD: RJH	DATE: 01/15/08	
APPD: JSZ	DATE: 01/15/08	
SCALE: AS SHOWN		

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
SCCC SITE
KEARNY, NEW JERSEY

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

SITE TOPOGRAPHY

PROJECT NO: 08-613

FIGURE 5-4

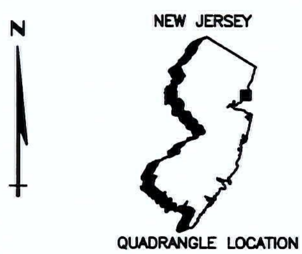
REV #	DATE	DESCRIPTION	APPD
1			

REFERENCE:

1. EXISTING GROUND SURFACE ELEVATION CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).

0 2000 4000

FEET



STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: CRJ	DATE: 01/15/08
CHKD: RJH	DATE: 01/15/08
APPD: JSZ	DATE: 01/15/08
SCALE:	1"= 2000'

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
SCCC SITE
KEARNY, NEW JERSEY

REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLES OF JERSEY CITY, AND WEEHAWKEN, NEW JERSEY (1967)

ISSUE DATE:

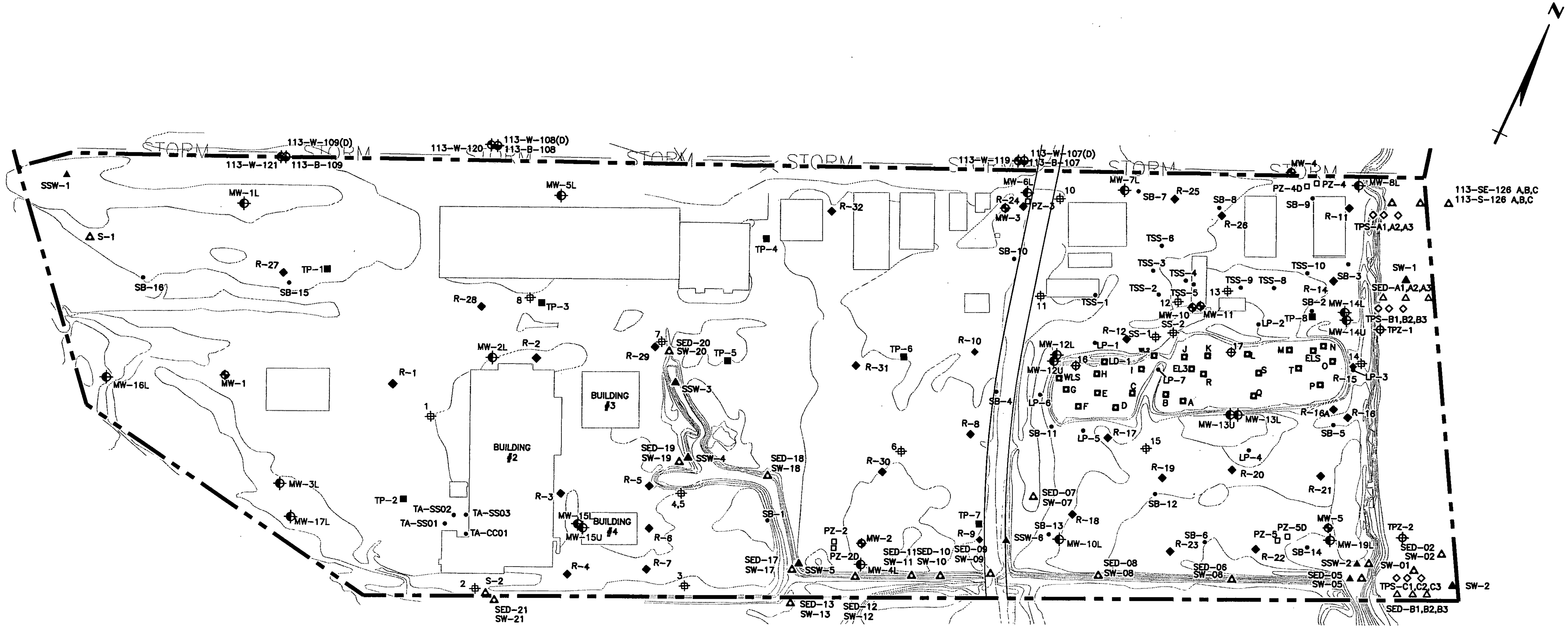
KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

SITE LOCATION MAP AND ONE MILE RADIUS

PROJECT NO: 08-613

FIGURE 5-5

y:\kearny\08-613\remed...gation\figure 5-5.dwg Last Saved By: Scomer 3/10/2008 11:47 AM Plotted By: Shelly Comer 12/3/2008 8:43 AM Scale:



LEGEND

PROPERTY BOUNDARY	8	SURFACE SOIL SAMPLE LOCATION (WESTON)	
FENCE	SS-1	SURFACE SOIL SAMPLE LOCATION (WESTON)	
GROUND SURFACE ELEVATION CONTOURS	B, LD-1, WL2, ELS	LAGOON SAMPLES LOCATION (WESTON)	
BUSH / TREELINE	LP-5	SOIL BORING SAMPLE LOCATION (WESTON)	
EXISTING STRUCTURE	SB-3	SOIL BORING SAMPLE LOCATION (ERM)	
UTILITY POLE	SS-224	SURFACE SOIL SAMPLE LOCATION (BROWN & CALDWELL)	
5.5 SPOT ELEVATION	TSS-1	TANK SURFACE SOIL SAMPLE LOCATION (WESTON)	
	TA-SS01	SOIL SAMPLE LOCATION (KEY)	
	TA-CC01	PCB/SOIL SAMPLE LOCATION (KEY)	

TP-1	TEST PIT LOCATION (WESTON)
TPS-A1,A2,A3	RAPID OPTICAL SCREENING TOOL BORING LOCATION (KEY)
MW-1L	MONITORING WELL LOCATION (ERM)
PZ-3	PIEZOMETER LOCATION
113-W-121	SHALLOW GROUNDWATER MONITORING WELL LOCATION (BROWN & CALDWELL)
MW-1	MONITORING WELL/SOIL BORING LOCATION (WESTON)
TPZ-1	TEMPORARY MONITORING WELL LOCATION (WESTON)
TPS-A1,A2,A3	SEDIMENT SAMPLE LOCATION (ESI)
SED-A1,A2,A3	SEDIMENT SAMPLE LOCATION (ERM)
SW-4	SURFACE WATER SAMPLE LOCATION (ERM)
SSW-1	SURFACE WATER / SEDIMENT SAMPLE LOCATION (WESTON)
SED-04 SW-04	SEDIMENT AND SURFACE WATER SAMPLE LOCATION (USEPA)
113-SE-126 A,B,C 113-S-126 A,B,C	SURFACE WATER AND SEDIMENT SAMPLE LOCATION (BROWN & CALDWELL)
16	SEDIMENT SAMPLE LOCATER (E.C. JORDON)

0 150 300 FEET

STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: XXX	DATE: 02/26/08
CHKD: XXX	DATE: 02/26/08
APPD: XXX	DATE: 02/26/08
SCALE:	AS SHOWN

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN
KEARNY, NEW JERSEY

REV #	DATE	DESCRIPTION	APPD
1			
2			
3			

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

HISTORICAL SAMPLE LOCATIONS

PROJECT NO: 08-613

FIGURE 6-1

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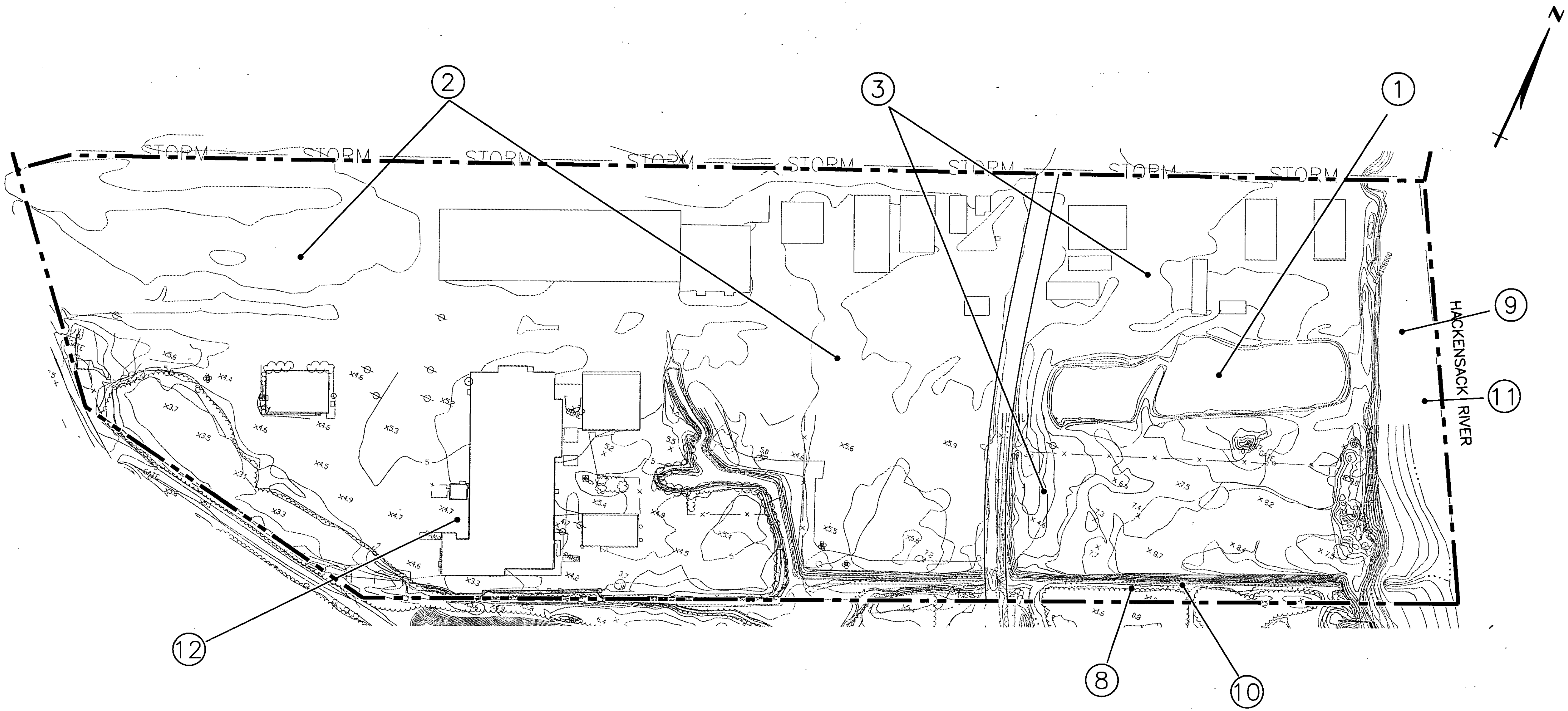

AREA OF CONCERN SUMMARY	
NUMBER	DESCRIPTION
1	LAGOON SOLIDS
2	WESTERN AREA SOIL
3	EASTERN AREA SOIL
4	SHALLOW FILL UNIT GROUNDWATER*
5	DEEPER SAND UNIT GROUNDWATER*
6	BEDROCK GROUNDWATER*
7	DENSE NON-AQUEOUS PHASE LIQUID*
8	DRAINAGE DITCH SURFACE WATER
9	HACKENSACK RIVER SURFACE WATER
10	DRAINAGE DITCH SEDIMENT
11	HACKENSACK RIVER SEDIMENT
12	TRANSFORMER AREA

0 150 300 FEET

* SUBSURFACE AREAS OF CONCERN.

REV #	DATE	DESCRIPTION	APPD
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REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: WAA	DATE: 02/26/08
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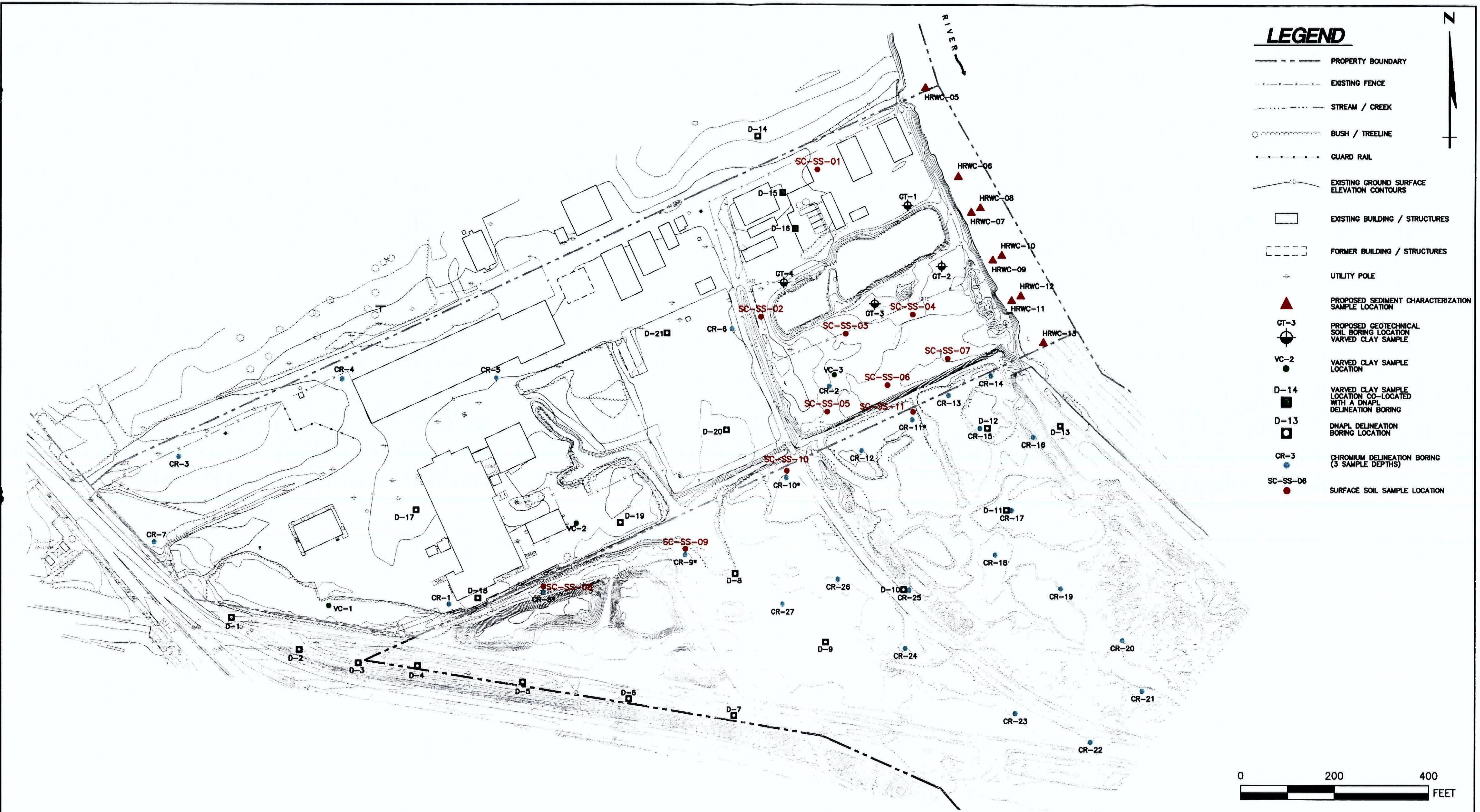
APPD: JSZ	DATE: 02/26/08
SCALE:	AS SHOWN

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN
KEARNY, NEW JERSEY

AREAS OF CONCERN

PROJECT NO: 08-613
FIGURE 6-2



NOTES:
1. GROUNDWATER SAMPLE LOCATIONS ARE DEPICTED ON FIGURE 7-2.
2. SAMPLE ANALYSIS IS SPECIFIED IN TABLE 7-1.
3. CHROMIUM DELINEATION SAMPLES FROM CR SERIES BORINGS TO BE OBTAINED FROM 0-0.5 FEET, FROM THE WATER TABLE INTERFACE, AND FROM THE MEADOW MAT. SURFACE CHROMIUM DELINEATION SAMPLES FOR CR BORINGS MARKED WITH ASTERISK (*) TO BE OBTAINED FROM THE ADJACENT SURFACE SOIL SAMPLE LOCATION (CR-8, CR-9, CR-10, CR-11).

REV #	DATE	DESCRIPTION	APPD
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1			

REFERENCE:
1. VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
2. EXISTING GROUND SURFACE ELEVATION CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
3. PROPERTY BOUNDARY PER PAULUS, SOKOLOWSKI, SARTOR, CONSULTING ENGINEERS, AUGUST 1995.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: WAA	DATE: 11/14/08
CHKD: RJH	DATE: 11/14/08
APPD: JSZ	DATE: 11/14/08
SCALE:	AS SHOWN

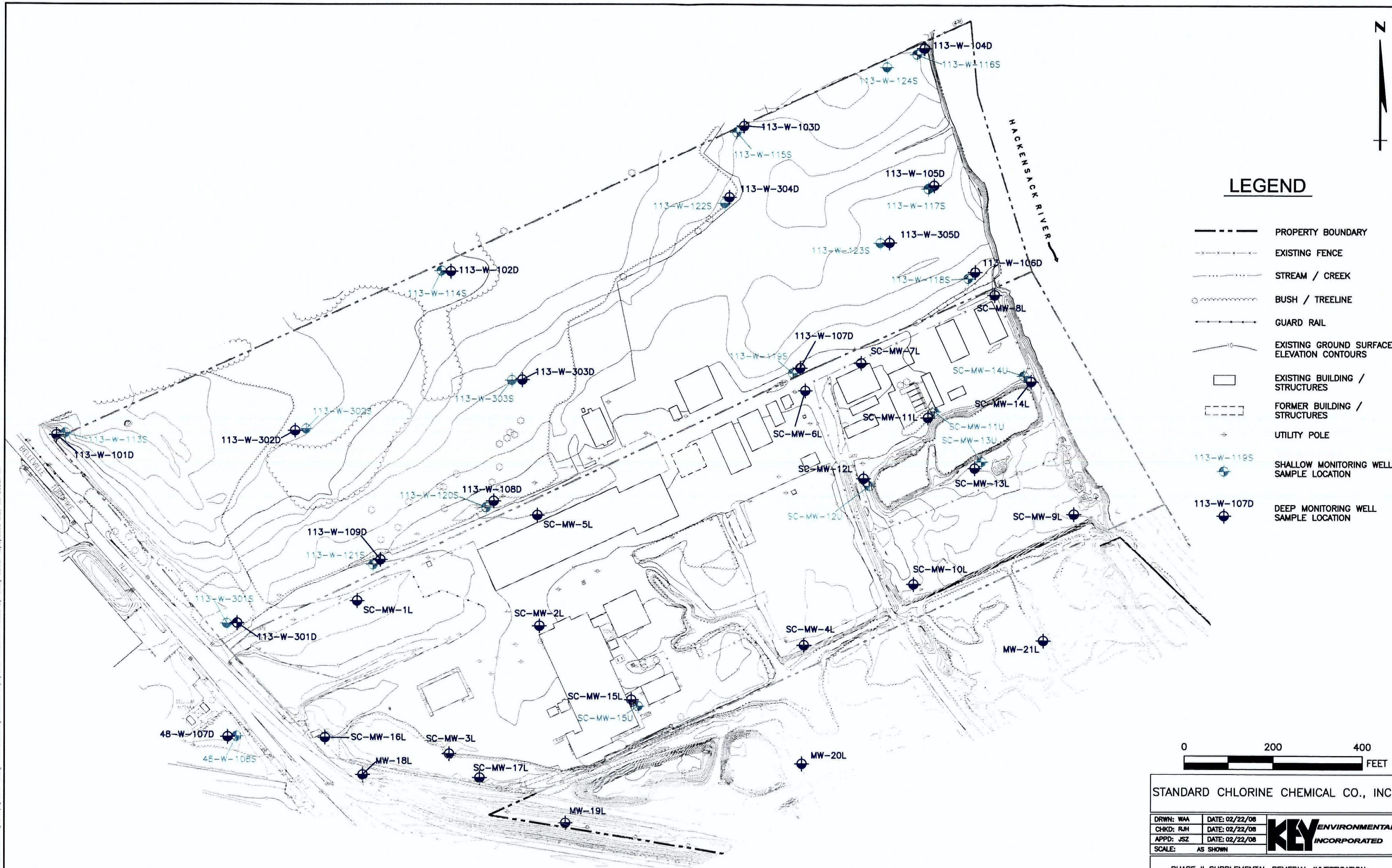
KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
SCCC SITE
KEARNY, NEW JERSEY

INVESTIGATION LOCATIONS

PROJECT NO: 08-613

FIGURE 8-1



STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: WAA	DATE: 02/22/08
CHKD: RJH	DATE: 02/22/08
APPD: JSZ	DATE: 02/22/08
SCALE: AS SHOWN	

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
SCCC SITE
KEARNY, NEW JERSEY

GROUNDWATER SAMPLING LOCATIONS

PROJECT NO: 08-613

FIGURE 8-2

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

REFERENCE:

REV #	DATE	DESCRIPTION	APPD
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TABLE 1-1

HISTORICAL RI AND IRM ACTIVITIES
SCCC AND DIAMOND SITES – KEARNY, NEW JERSEY

Date	Activity	For	Workplan/Report
1983-1984	Hydrogeologic Investigation, SCCC Site	SCCC	*Hydrogeologic Investigation, Standard Chlorine Chemical Company, Kearny, New Jersey* (Weston, January 1984).
1985	Phase II Dioxin Investigation, SCCC Site	NJDEP	*Phase II Dioxin Site Investigation, Final Report* (E.C. Jordan, Inc. 1985).
1985-1988	Stage 1, 2, and 3 Dioxin Investigations, SCCC Site	SCCC	*Sampling and Analysis of Potentially Dioxin-Contaminated Materials in Waste Lagoons, Stage I Analysis Report* (Weston, 1987)*; and Sampling and Analysis of Potentially Dioxin-Contaminated Materials in Waste Lagoons, Stage II and III* (Weston, 1988).
1989-1990	IRMs, SCCC	SCCC	*Draft Interim Measures Work Plan, Standard Chlorine Chemical Co., Inc, Kearny, New Jersey* (Weston, November 1989)*; Final IRM Workplan* (Weston February 1990).
1990	IRM Work Plan, SCCC Site	SCCC	*Final IRM Workplan* (Roy F. Weston, Inc., February 1990).
1991	Chromium IRMs, SCCC Site and Diamond Site	Maxus Energy Corporation (Maxus)(1)	*Interim Remedial Measures Work Plan* (French & Parrello, 1991).
1990-1993	RI and Supplemental RI, SCCC Site	SCCC	*Draft Remedial Investigation for the Standard Chlorine Chemical Company, Inc. and Standard Naphthalene Products Inc. Properties, Kearny, New Jersey* (Weston, May 1993).
1996-1997	Focused Remedial Investigation, SCCC Site	SCCC	*Focused Remedial Investigation (FRI) Report, Standard Chlorine Chemical Company, Inc. and Standard Naphthalene Products, Inc. Site, Kearny, New Jersey* (ERM, Inc., January 1997).
1996	Production Well Closure, SCCC Site	SCCC	*Workplan for Production Well Closure* (ERM., December 1996).
1997	Proposed Remedial Action Plan, Eastern 1/3 SCCC Site	SCCC	*Preliminary Remedial Action Plan, Standard Chlorine Chemical Co. Inc. and Standard Naphthalene Products, Inc. Site, Kearny, New Jersey* (ERM January 1997).
1997-1999	Supplemental Remedial Investigation, SCCC Site	SCCC	*Supplemental Remedial Investigation Report, Standard Chlorine Chemical Company, Kearny, New Jersey* (Key Environmental, Inc., April 1999).

TABLE 1-1

HISTORICAL RI AND IRM ACTIVITIES
SCCC AND DIAMOND SITES – KEARNY, NEW JERSEY

Date	Activity	For	Workplan/Report
2000	Remedial Action Workplan for Containerized Materials	SCCC	*Remedial Action Workplan, Standard Chlorine Chemical Company Site* (Enviro-Sciences, Inc., June 5, 2000).
2000	Soil/Sediment Sampling and Analysis	SCCC	*Letter to Maria-Franco-Spera (NJDEP)* (Enviro-Sciences, Inc., October 23, 2000).
2000	Septic Tank Closure (NJPDES-DGW) IRM	SCCC	*Letter to Kevin Marlowe (NJDEP)* (Enviro-Sciences, Inc., August, 2000).
2000	Remedial Action Workplan, Baseline Ecological Evaluation, IRM for Northern Outfall	SCCC	*Conceptual Remedial Action Workplan, Standard Chlorine Chemical Company, Inc., Kearny, New Jersey* (Enviro-Sciences, Inc., October 1999); *Remedial Action Workplan, Standard Chlorine Chemical Company, Inc., Kearny, New Jersey* (Enviro-Sciences, Inc., November 2000).
2000	Characterization of Containerized Materials	SCCC	*Letter to Maria-Franco-Spera (NJDEP)* (Enviro-Sciences, Inc., October 23, 2000).
2001	Remedial Investigation, Diamond Site	Chemical Land Holdings, Inc. (CLH)(1)	*Remedial Investigation Report, Site 113, Diamond Site* (Brown and Caldwell, April 2001).
2002	Surface Water and Sediment Sampling	EPA	*Sampling Report for the Standard Chlorine Site* (United States Environmental Protection Agency, 2002).
2004	Interim Response Action Workplan,	SCCC/Diamond	*Interim Response Action Workplan - SCCC and Diamond Sites* (Key Environmental, Inc., March 2004).
2004	Lead and Asbestos Survey, SCCC and Diamond Site Buildings	SCCC/Diamond	*Pre-Demolition Asbestos and Lead Building Surveys, Standard Chlorine Chemical Company Site and Diamond Site* (Omega Environmental Services, Inc., March 2004).
2004	Asbestos Management and Building Demolition Workplan	SCCC	*Workplan for Phase I Asbestos Management and Select Building Demolition, SCCC Site* (Key Environmental, Inc., June 2004).
2004	Wetlands Delineation	SCCC/Diamond	*Wetlands Delineation Report for Standard Chlorine Chemical Company and Former Diamond Sites* (Princeton Hydrologic, L.L.C., September 2004).
2004	Pre-Design Investigation Workplan	SCCC/Diamond	*Pre-Design Investigation Workplan, Standard Chlorine Chemical Company Site and Former Diamond Site* (Key Environmental, Inc., October 2004).

TABLE 1-1

HISTORICAL RI AND IRM ACTIVITIES
SCCC AND DIAMOND SITES – KEARNY, NEW JERSEY

Date	Activity	For	Workplan/Report
2004	Solidification Treatability Study Workplan	SCCC	*Solidification Treatability Study Workplan, Standard Chlorine Chemical Company Site* (Key Environmental, Inc., October 2004).
2004	Aerial Topographic Survey	SCCC/Diamond	Topographic Base Map prepared by Air Survey, Dulles, VA. April 14, 2001.
2005	Asbestos Removal, Waste Classification, Demolition, Disposal (SCCC Buildings)	SCCC	*Work Plan for Dilapidated Non-Process Building Demolition, Standard Naphthalene Products Co., Inc., Finished Goods Area* (Key Environmental, August 2005).
2005	Scope of Work – Supplemental RI	SCCC	*Electronic Mail to Mr. Gary Lipsius* (Langan Engineering and Environmental Services, Inc., July 21, 2005).
2006	Interim Response Action Planning	SCCC/Diamond	*Interim Response Action Workplan (IRAW).* Key Environmental, Inc. June 2006.
2006	Numerical Groundwater Modeling	SCCC/Diamond	*Groundwater Flow and Transport Model and Barrier Wall Evaluation, Standard Chlorine Chemical Company, Inc. Site and Diamond Shamrock Site* (GeoTrans, Inc., June 23, 2006)
2006	Request for Use of USEPA Area of Contamination Policy	SCCC/Diamond	*Letter to Mr. Chris Kanakis and Mr. Frank Faranca (NJDEP)* (Key Environmental, Inc., July 3, 2006).
2006	Vault Content Sampling /Waste Classification Determination Request	SCCC	*Letter to Mr. Robert Confer (NJDEP)* (Langan Engineering and Environmental Services, Inc., October 25, 2006).
2007	Interim Response Action Workplan	SCCC/Diamond	*Interim Response Action Workplan (IRAW), SCCC and Diamond Sites* (Key Environmental, Inc., May 2007).
2007	Interim Response Action Workplan Addendum	SCCC/Diamond	*Interim Response Action Workplan (IRAW) Addendum – Responses to NOV Issues and Proposed Revisions* – SCCC and Diamond Sites (Key Environmental, Inc., November 16, 2007).

1. Some of the work at the SCCC Site has been conducted under an Administrative Consent Order dated April 17, 1990 entered by NJDEP with Occidental Chemical Corporation (OCC) and Chemical Land Holdings, (CLH) Inc. (now Tierra) relating to COPR (the "Diamond ACO"). Maxus historically had responsibility for overseeing work under the Diamond ACO for OCC, as successor to Diamond Shamrock Chemicals Company.

TABLE 7-1

SAMPLE SUMMARY(1)
SCCC SITE PHASE II SUPPLEMENTAL REMEDIAL INVESTGATION
KEARNY, NEW JERSEY

Location	Area of Concern	Description	SRIWP Text Section	Sample Matrix	Boring Depth (ft)	Sample Depth (ft)	Required Analyses(2): TCL VOCs	TCL SVOCs	TAL Metals	Hexavalent Chromium	Total Chromium	PCDD & PCDF	PCBs	Cyanide	Field	pH	ORP	HRSA(3) RI Suite	Sampling Method	Purpose
SOIL SAMPLING																				
D-1 through D-21	7	Horizontal and Vertical DNAPL Delineation Samples	8.1	Soil	25	TBD(4)	X	X	X										Split Spoons	Horizontal and Vertical DNAPL Delineation
D-14 and D-15	3, 7	Vertical DNAPL/Chromium Delineation Samples	8.1	Soil	25	TBD	X	X	X	X						X	X		Split Spoons	Vertical Delineation of Potential Impact Below the Sand Unit
VC-1 through VC-3	2, 3	Vertical Organics and Metals Delineation Samples	8.3	Soil	30	TBD (Varved Clay)	X	X	X	X						X	X		Split Spoons	Vertical Delineation of Potential Impact Below the Sand Unit
GT-1 through GT-4	2,3,7	Vertical Organics and Metals Delineation Samples	8.3	Soil	30	TBD (Varved Clay)	X	X	X	X						X	X		Split Spoons	Vertical Delineation of Potential Impact Below the Sand Unit
CR-1 through CR-27	2, 3	Vertical Chromium Characterization Samples	8.3	Soil	10(5)	0 - 10(5)				X	X					X	X		Split Spoons or Geoprobe	Horizontal and Vertical Delineation of Cr(VI)
SC-SS-01 through SC-SS-11	2, 3	Surface Soil Characterization Samples	8.3	Surface Soil	0.5	0 - 0.5		X		X	X	X	X			X	X		Split Spoons	Horizontal Delineation of Surficial Impacts
SEDIMENT SAMPLING																				
HRWC-05 through HRWC-13	11	Hackensack R. Surface Sediment Characterization Samples	9.0	Sediments	3	0 - 1.0 2.0-3.0										X	X	X	Hand Augers	Horizontal and Vertical Delineation of Impacts
GROUNDWATER SAMPLING																				
21 Wells(6)	4	Upper Fill Zone Groundwater Characterization	8.2	Ground Water	-	Upper Zone (Fill)	X	X	X	X				X	X	X	X		Low Flow	Upper Zone Groundwater Characterization
36 Wells(6)	5	Deeper Sand Zone Groundwater Characterization	8.2	Ground Water	-	Lower Zone (Sand)	X	X	X	X				X	X	X	X		Low Flow	Lower Zone Groundwater Characterization
DNAPL SAMPLING																				
MW-4L, 8L, 12L & 14L	7	DNAPL Chemical Characterization Samples	8.1	DNAPL	-	TBD	X	X		X	X								Low Flow	DNAPL Characterization
MW-3L & 13L(7)	7	DNAPL Chemical Characterization Samples	8.1	DNAPL	-	TBD	X	X			X								Low Flow	DNAPL Characterization

1. Additional relevant information will be obtained pursuant to an associated Interim Response Action Workplan (IRAW). Relevant analytical data for samples shown in bold, shaded, italics will be obtained via implementation of the IRAW. To preclude any schedule delays, samples for these locations will be collected at risk and will be analyzed for the complete suite of IRAW and Phase II SRI parameters in the event that approval of the IRAW and SRIWP is not concurrent.

2. TCL VOCs - Target Compound List Volatile Organic Compounds.
TCL SVOCs - Target Compound List Semi-Volatile Organic Compounds.
TAL Metals - Target Analyte List Metals.
PCDD/PCDF - Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans.
ORP - Oxidation-Reduction Potential
Field - Field parameters consisting of pH, oxidation-reduction potential, dissolved oxygen, temperature, and turbidity.

3. HRSA RI Suite - Additional analysis of Interim Response Action Workplan SCCC sediment samples to ensure consistency with the Hackensack River Study Area Remedial Investigation. Additional analyses consist of the following:
Acid Volatile Sulfide/Simultaneously Extracted Metals; Polychlorinated Biphenyl Congeners and Homologues; Pesticides and Herbicides; Total Extractable Petroleum Hydrocarbons

4. TBD - To be determined based on visual inspection/ PID measurements. Samples will be collected directly above the Varved Clay if no DNAPL is encountered. Samples will be collected from the Varved Clay if DNAPL is present directly above the clay.

5. Hexavalent chromium delineation sampling will be completed for the 0 to 0.5 foot interval, at the water table, and from the upper horizon of the meadow mat.
Four of the surface samples from these locations will be obtained from co-located surface soil sample locations SC-SS-08, SC-SS-09, SC-SS-10, and SC-SS-11.

6. Groundwater samples will be analyzed for total metals and both total and dissolved total and hexavalent chromium. Monitoring wells in the two zones are as follows:

Upper Zone					
SC-MW-11U	SC-MW-15U	***113-W-116S***	***113-W-120S***	***113-W-124S***	48-W-108S
SC-MW-12U	***113-W-113S***	113-W-117S	***113-W-121S***	***113-W-301S***	
SC-MW-13U	***113-W-114S****	113-W-118S	***113-W-122S***	***113-W-302S***	
SC-MW-14U	***113-W-115S***	113-W-119S	***113-W-123S***	***113-W-303S***	

Lower Zone								
SC-MW-1L	SC-MW-5L	SC-MW-9L	***SC-MW-13L***	SC-MW-17L	MW-21L	113-W-104D	113-W-108D	113-W-303D
SC-MW-2L	SC-MW-6L	SC-MW-10L	***SC-MW-14L***	MW-18L	113-W-101D	113-W-105D	113-W-109D	113-W-304D
SC-MW-3L	SC-MW-7L	SC-MW-11L	***SC-MW-15L***	MW-19L	113-W-102D	113-W-106D	113-W-301D	113-W-305D
SC-MW-4L	***SC-MW-8L***	***SC-MW-12L***	SC-MW-16L	MW-20L	113-W-103D	113-W-107D	113-W-302D	48-W-107D

* Wells shown in bold italic typeface will be sampled to support IRAW implementation. To the extent practicable, the IRAW and RI groundwater sampling efforts will be coordinated and analyses for the two programs will not be duplicated.

7. Hexavalent chromium analysis of DNAPL samples from MW-3L and MW-13L is planned during IRAW implementation and is not repeated herein.

TABLE 7-2

SAMPLING AND ANALYSIS REQUIREMENTS
SCCC SITE PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
KEARNY, NEW JERSEY

Matrix Sample Summary			QA Sample Frequency(3)				Analytical Requirements Summary				
Analytical Parameter(1)	Sample Matrix(2)	No. of Samples	Field Duplicates	Field Blanks	MS/MSDs	Trip Blanks	Method Reference(4)	Bottle Type	Required Sample Volume(5)	Preservation	Holding Time
ORGANICS											
TCL VOCs	Subsurface Soil D-1 - D-21 VC-1- VC-3 GT-1 - GT-4	28	2	3	1/1	--	SW846 5035A SW846 8260B	Glass	Encore™ (3) or TerraCor Kits	1 x 5 ml methanol; 2 x 5 ml sodium bisulfate; 1 x 5 ml water	14 days from collection if field preserved. Preservation within 48 hours if lab preserved.
	Groundwater See Table 7-1	57	3	6	3/3	1/20 or 1/shipment	SW846 8260B	Glass with Teflon™-lined septum.	2 x 40 ml vials	4°C, HCl to pH<2	14 days.
	DNAPL See Table 7-1	6	1	1	1/1	1/20 or 1/shipment	SW846 8260B	Glass with Teflon™-lined cap	2 x 40 ml vials	4°C, HCl to pH<2	14 days.
TCL SVOCs	Surface Soil SC-SS-01 to 11	11	1	1	1/1	--	SW846 8270C	Glass	100 grams	4°C	7 days to extraction/40 days to analysis.
	Subsurface Soil D-1 - D-21 VC-1- VC-3 GT-1 - GT-4	28	2	--	1/1	--	SW846 8270C	Glass	100 grams	4°C	7 days to extraction/40 days to analysis.
	Groundwater See Table 7-1	57	3	6	3/3	--	SW846 8270C	Glass with Teflon™-lined cap (amber)	2 Liters	4°C	7 days to extraction/40 days to analysis.
	DNAPL See Table 7-1	6	1	1	1/1	--	SW846 8270C	Glass with Teflon™-lined cap (amber)	2 Liters	4°C	7 days to extraction/40 days to analysis.
PCDD & PCDF	Surface Soil SC-SS-01 to 11	11	1	--	1/1	--	SW846 8290	4-oz glass	25 mg	4°C	1 year
TCL PCBs	Surface Soil SC-SS-01 to 11	11	1	--	1/1	--	SW846 8082	Glass	4 ounces	4°C	7 days to extraction/40 days to analysis.
PCB Congeners & Homologues	Sediment HRWC-05 - HRWC-13	9	1	--	1/1	--	SW846 1668A	Glass	8 ounces	4°C	7 days to extraction/40 days to analysis.
TCL Pesticides		9	1	--	1/1	--	SW846 8081A	Glass	8 ounces	4°C	14 days to extraction/40 days to analysis.
TCL Herbicides		9	1	--	1/1	--	SW846 8151A	Glass	8 ounces	4°C	14 days to extraction/40 days to analysis.
Total Extractable Pet. Hydrocarbons		9	1	--	--	--	NJ-TPH	Glass	4 ounces	4°C	14 days to extraction/40 days to analysis.
INORGANICS											
TAL Metals (includes total Cr)	Subsurface Soil D-1 - D-21 VC-1- VC-3 GT-1 - GT-4	28	2	--	--	--	SW846 6000 and 7000 series	Glass	100 grams	4°C	28 days for Hg; 6 months for other metals
	Groundwater See Table 7-1	57	3	6	--	--	SW846 6000 and 7000 series	Plastic or glass	500 ml	HNO_3 to pH<2; 4°C	28 days for Hg; 6 months for other metals
Total Chromium	Surface Soil SC-SS-01 to 11 CR-1 - CR-7 CR-12 - CR-27	34	2	--	--	--	SW846 6000 series	Glass	4 ounces	4°C	6 months
	Subsurface Soil CR-1 - CR-27	54	3	--	--	--	SW846 6000 series	Glass	4 ounces	4°C	6 months
	DNAPL See Table 7-1	6	1	1	--	--	SW846 6000 series	Glass	4 ounces	4°C	6 months

TABLE 7-2

SAMPLING AND ANALYSIS REQUIREMENTS
SCCC SITE PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
KEARNY, NEW JERSEY

Matrix Sample Summary			QA Sample Frequency				Analytical Requirements Summary				
Analytical Parameter(1)	Sample Matrix(2)	No. of Samples	Field Duplicates	Field Blanks	MS/MSDs	Trip Blanks	Method Reference(4)	Bottle Type	Required Sample Volume(5)	Preservation	Holding Time
Cyanide	Groundwater See Table 7-1	57	3	6	--	--	SW846 9012A	Plastic or glass	100 grams	4°C	14 days
Hexavalent Chromium	Surface Soil SC-SS-01 to 11 CR-1 - CR-7 CR-12 - CR-27	34	5	--	--	--	SW846 7199	Plastic or glass	100 grams	4°C	28 days
	Subsurface Soil D-14 & D-15 VC-1 - VC-3 GT-1 - GT-4 CR-1 - CR-27	63		--	--	--	SW846 7199	Plastic or glass	100 grams	4°C	28 days
	Groundwater See Table 7-1	57	3	6	--	--	SW846 7199	Plastic or glass	500 ml	4°C	24 hours
	DNAPL See Table 7-1	4	1	1	--	--	SW846 7199	Plastic or glass	500 ml	4°C	24 hours
Acid Volatile Sulfide Simultaneously Extracted Metals(6)	Sediment HRWC-05 - HRWC-13	9	1	1	--	--	EPA-821	Glass	8 ounces	4°C	Preparation and Analysis - 14 Days
INDICATOR PARAMETERS											
Hydronium Ion (pH)	Surface Soil SC-SS-01 to 11 CR-1 - CR-7 CR-12 - CR-27	34	--	--	--	--	SW846 9045C	Glass	4 ounces	4°C	As soon as possible after sample receipt
	Subsurface Soil D-14 & D-15 VC-1 - VC-3 GT-1 - GT-4 CR-1 - CR-27	63	--	--	--	--	SW846 9045C	Glass	4 ounces	4°C	As soon as possible after sample receipt
	Sediment HRWC-05 - HRWC-13	9		--	--	--	SW846 9045C	Glass	4 ounces	4°C	As soon as possible after sample receipt
	Groundwater(7) See Table 7-1	57	--	--	--	--	EPA 150.1	Plastic	500 ml	4°C	As soon as possible after sample receipt
Oxidation-Reduction Potential	Surface Soil SC-SS-01 to 11 CR-1 - CR-7 CR-12 - CR-27	34	--	--	--	--	ASTM D1498	Glass	4 ounces	4°C	As soon as possible after sample receipt
	Subsurface Soil D-14 & D-15 VC-1 - VC-3 GT-1 - GT-4 CR-1 - CR-27	63		--	--	--	ASTM D1498	Glass	4 ounces	4°C	As soon as possible after sample receipt
	Sediment HRWC-05 - HRWC-13	9		--	--	--	ASTM D1498	Glass	4 ounces	4°C	As soon as possible after sample receipt
	Groundwater(7) See Table 7-1	57	--	--	--	--	ASTM D1498	Plastic	500 ml	4°C	As soon as possible after sample receipt

TABLE 7-2

SAMPLING AND ANALYSIS REQUIREMENTS
SCCC SITE PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION
KEARNY, NEW JERSEY

1. Abbreviations for analytical parameters are as follows:

   PCBs -Polychlorinated Biphenyls
   PCDD - Polychlorinated Dibenzodioxins
   PCDF - Polychlorinated Dibenzofurans
   SVOCs - Semivolatile Organic Compounds
   TAL - Target Analyte List
   TCL - Target Compound List
   VOCs - Volatile Organic Compounds

2. Abbreviations for sample matrices are as follows:

   DNAPL - Dense Non-Aqueous Phase Liquid

3. Quality assurance sample requirements as per the New Jersey Field Sampling Procedures Manual (August 2005) Section 2.5.

4. Abbreviations for analytical methods are as follows:

   NJ-TPH Total Extractable Petroleum Hydrocarbons analysis via New Jersey DEP method NJ-TPH-QAM-025-10/91.
   EPA-821 EPA Method EPA-821-R-91-100.
   SW846 - Environmental Protection Agency methods per Test Methods for Evaluating Solid Waste - Physical/Chemical Methods - SW846 (3rd Ed). (as revised and updated)
   ASTM - American Society for Testing and Materials.

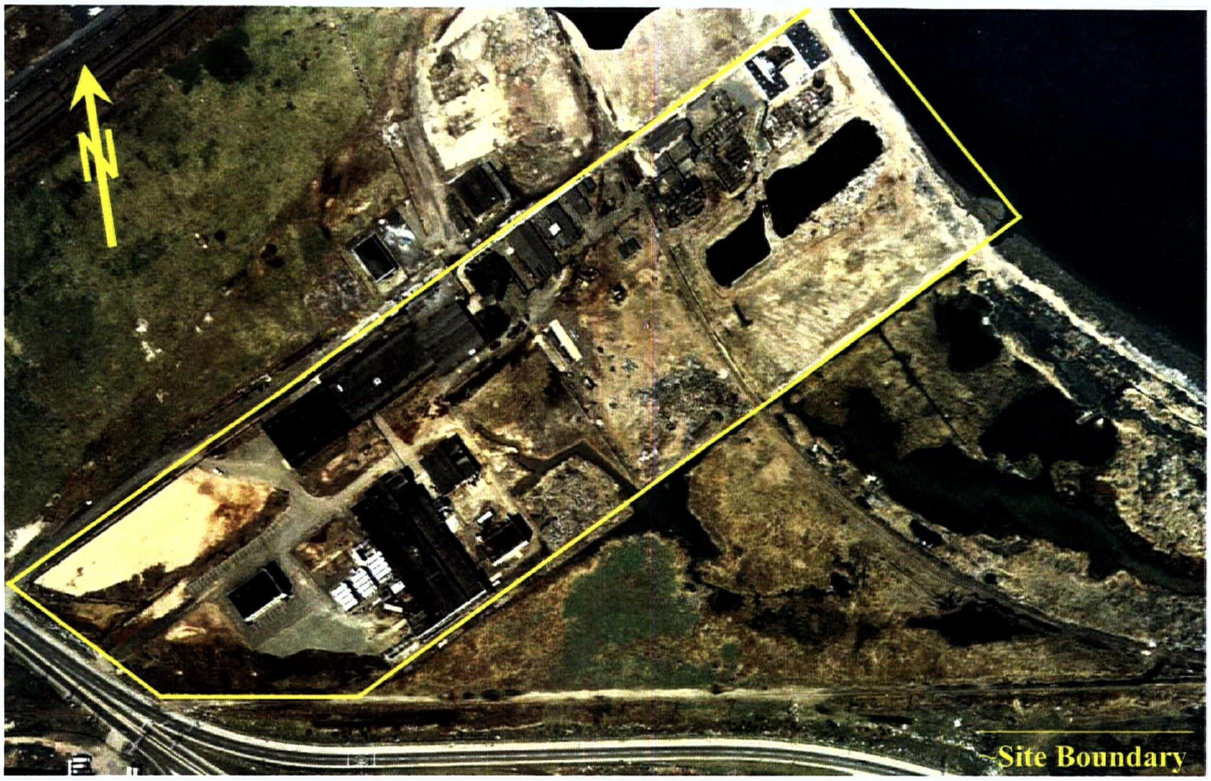
5. Precleaned and preveserved sample bottles to be provided by the laboratory. Sample volumes to be minimized as possible based on minimum laboratory volume requirements.

6. Simultaneously Extracted Metals analysis for silver, cadmium, copper, lead, mercury, nickel, and zinc.

7. Groundwater sample to subjected to field measurement of pH, oxidation-reduction potential, temperature, dissolved oxygen, and turbidity. Water levels and DNAPL levels to be measured in all monitoring wells.

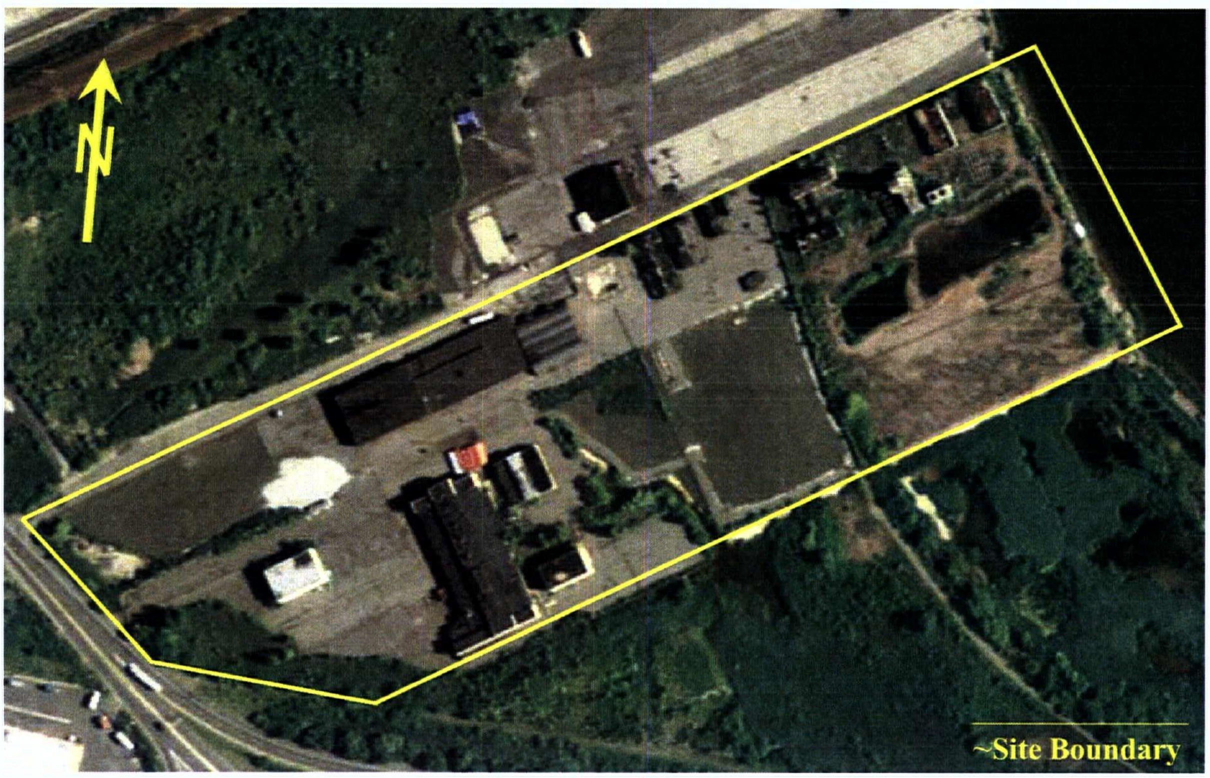
APPENDIX A

HISTORICAL AERIAL PHOTOGRAPHS



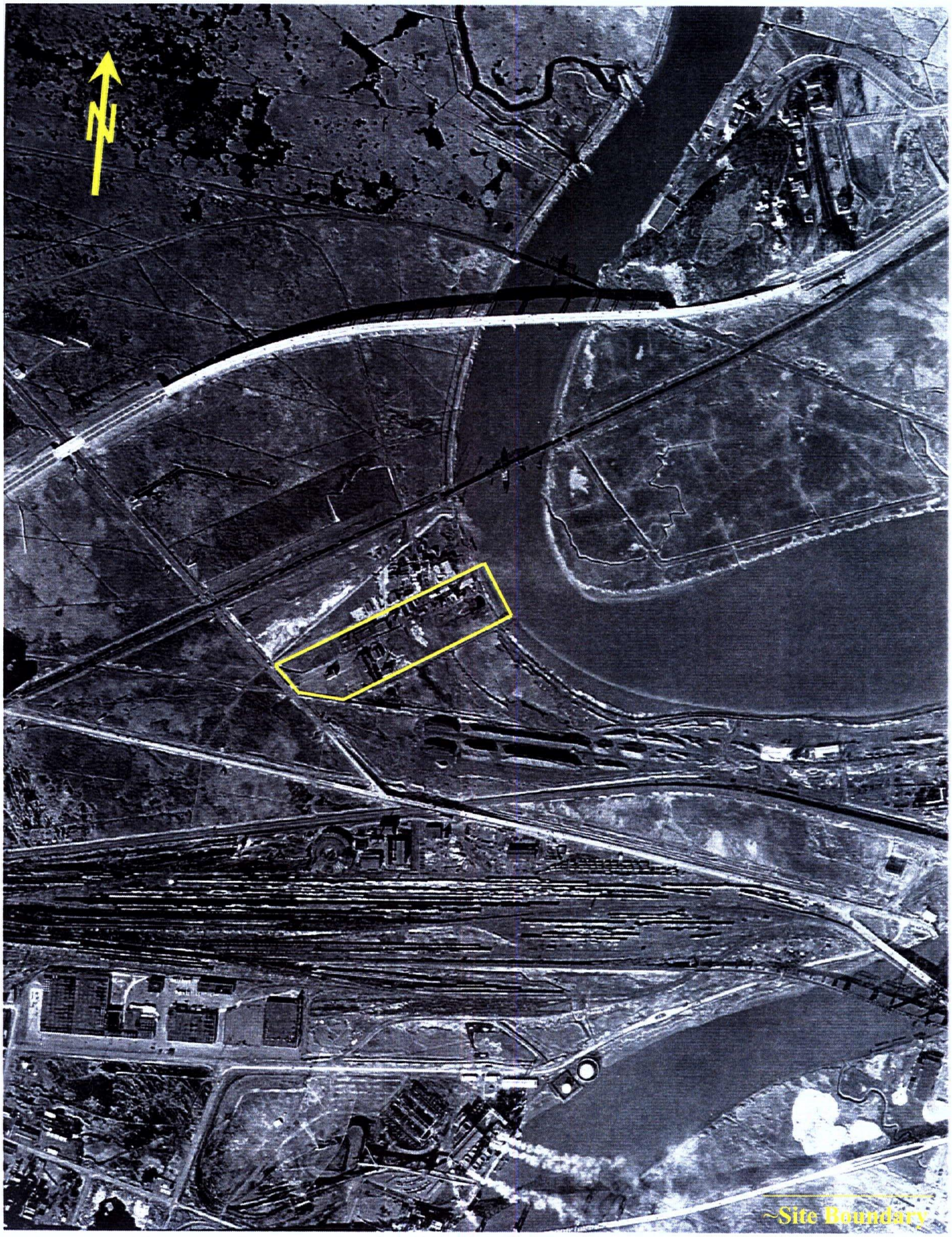
SCCC SITE PRIOR TO INTERIM REMEDIAL MEASURES (1986)

0 260 520
Approximate Scale



SCCC SITE AFTER INTERIM REMEDIAL MEASURES (2006)

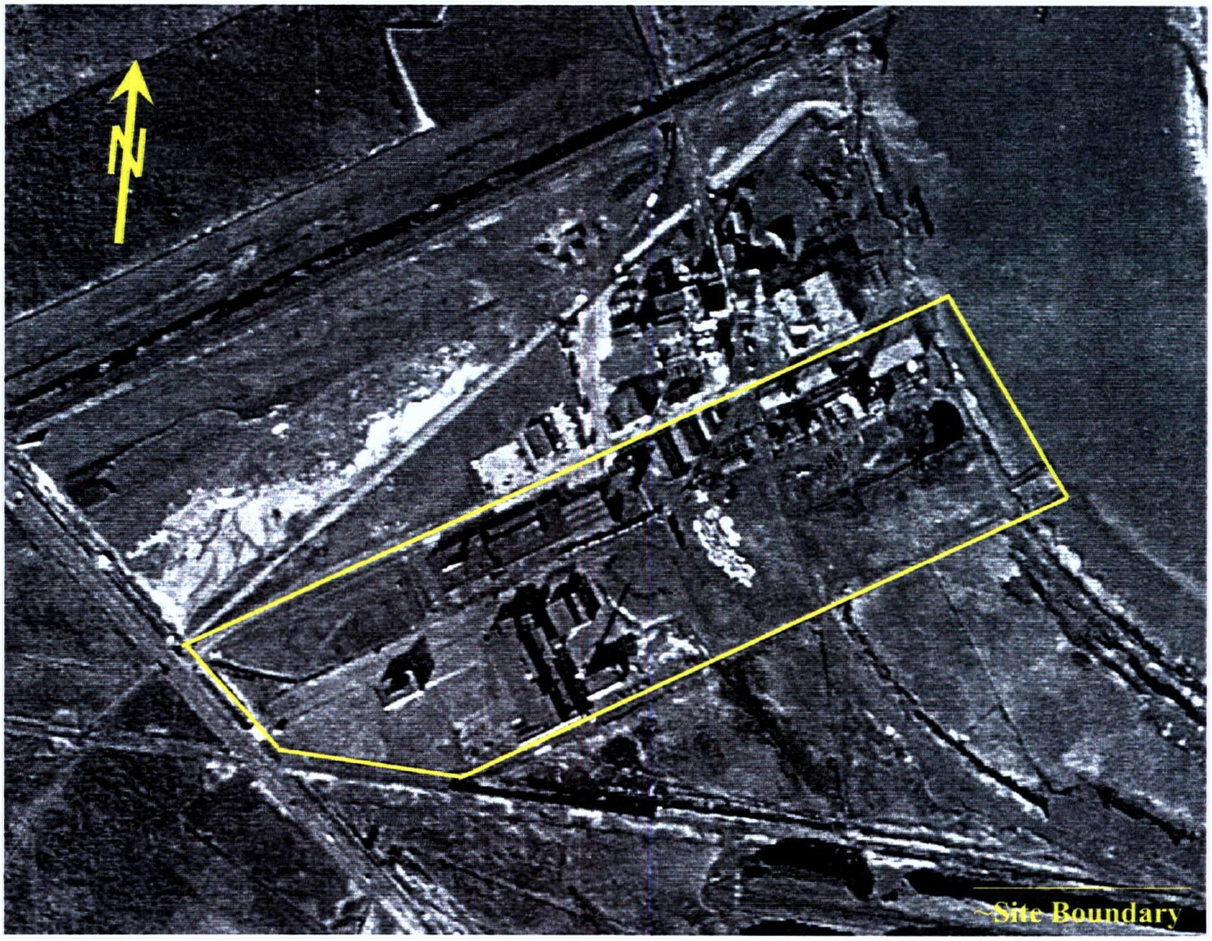
0 250 500
Approximate Scale



SCCC SITE AERIAL PHOTOGRAPH – 1953

0 1300 2600

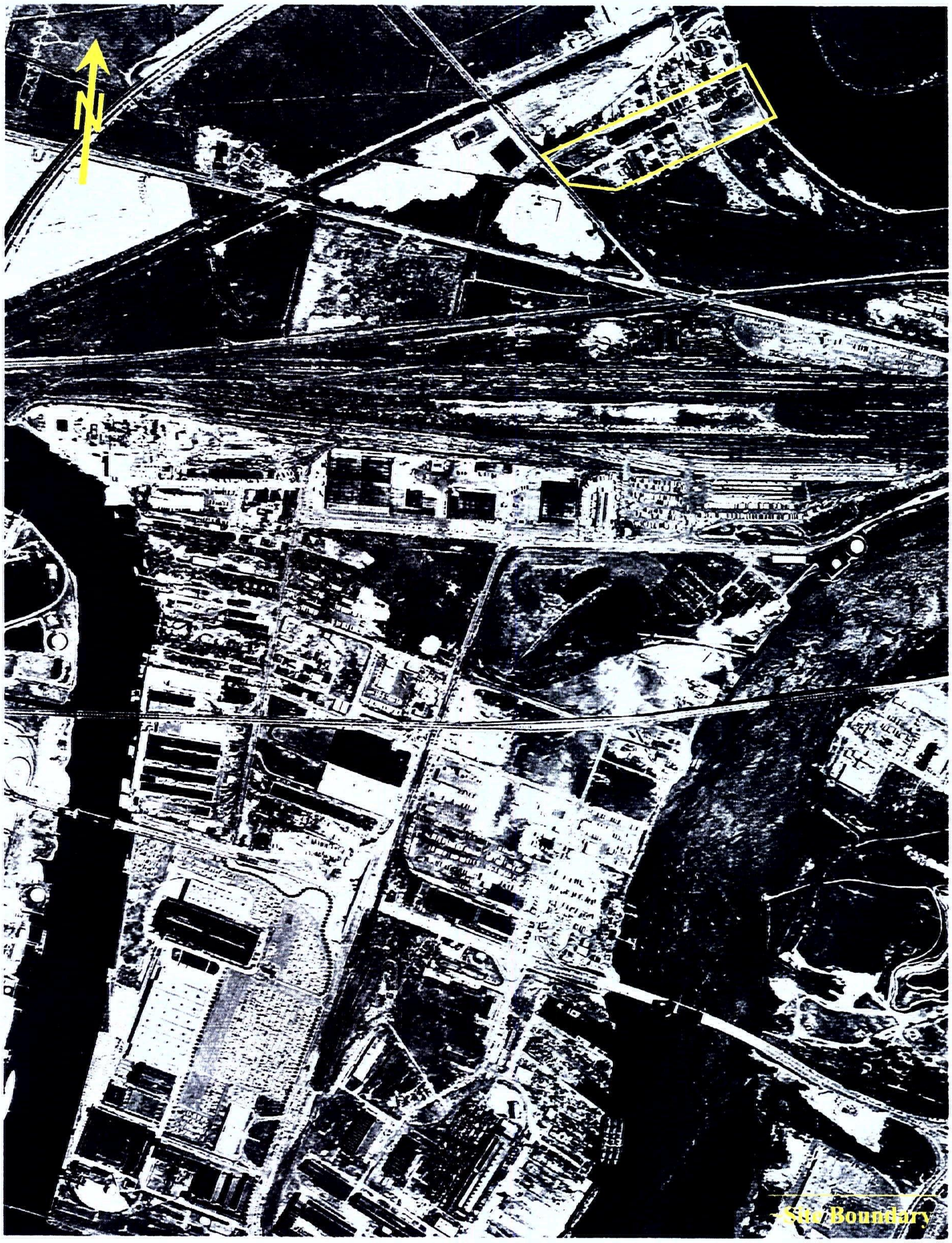
Approximate Scale



SCCC SITE AERIAL PHOTOGRAPH – 1953
(ENLARGED PORTION OF ORIGINAL)

0 430 860

Approximate Scale



SCCC SITE AERIAL PHOTOGRAPH – 1966

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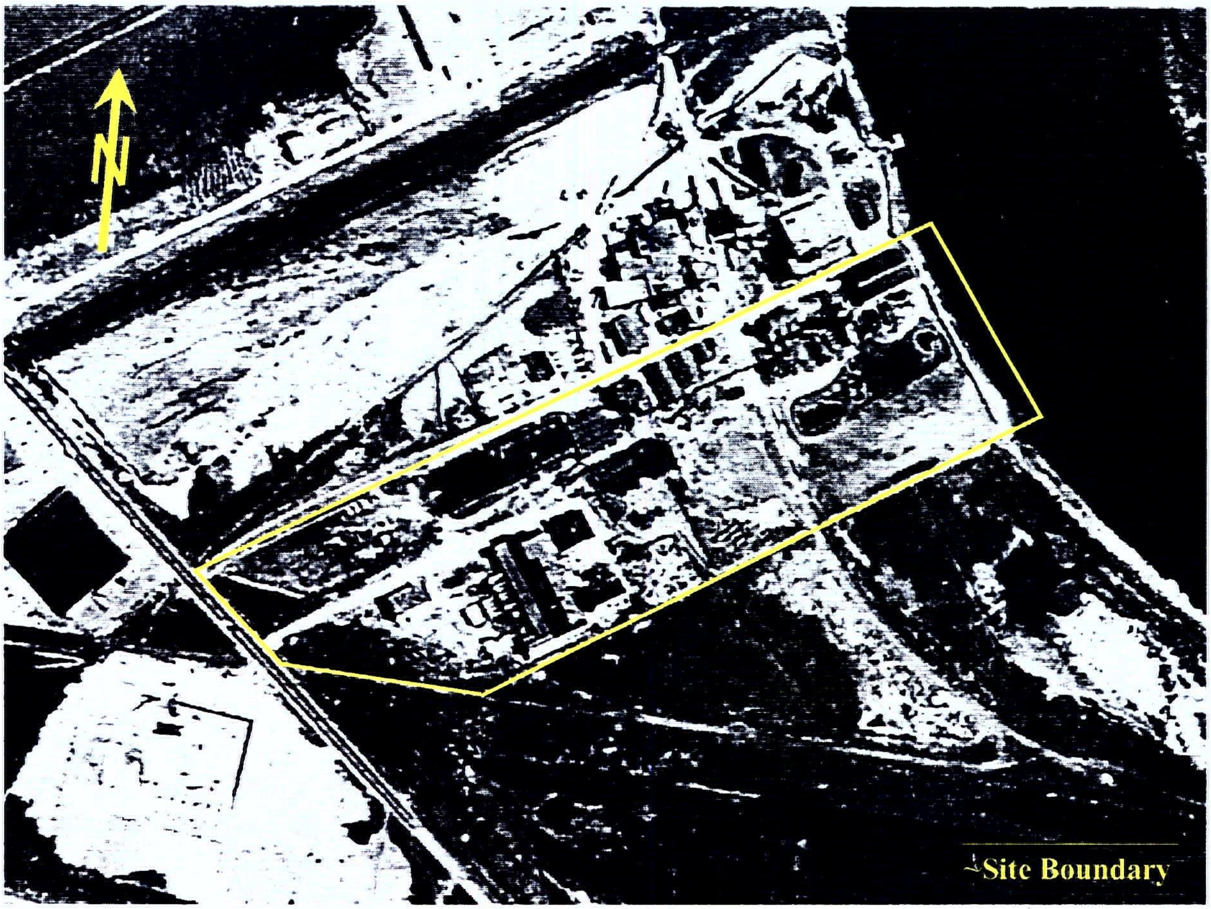
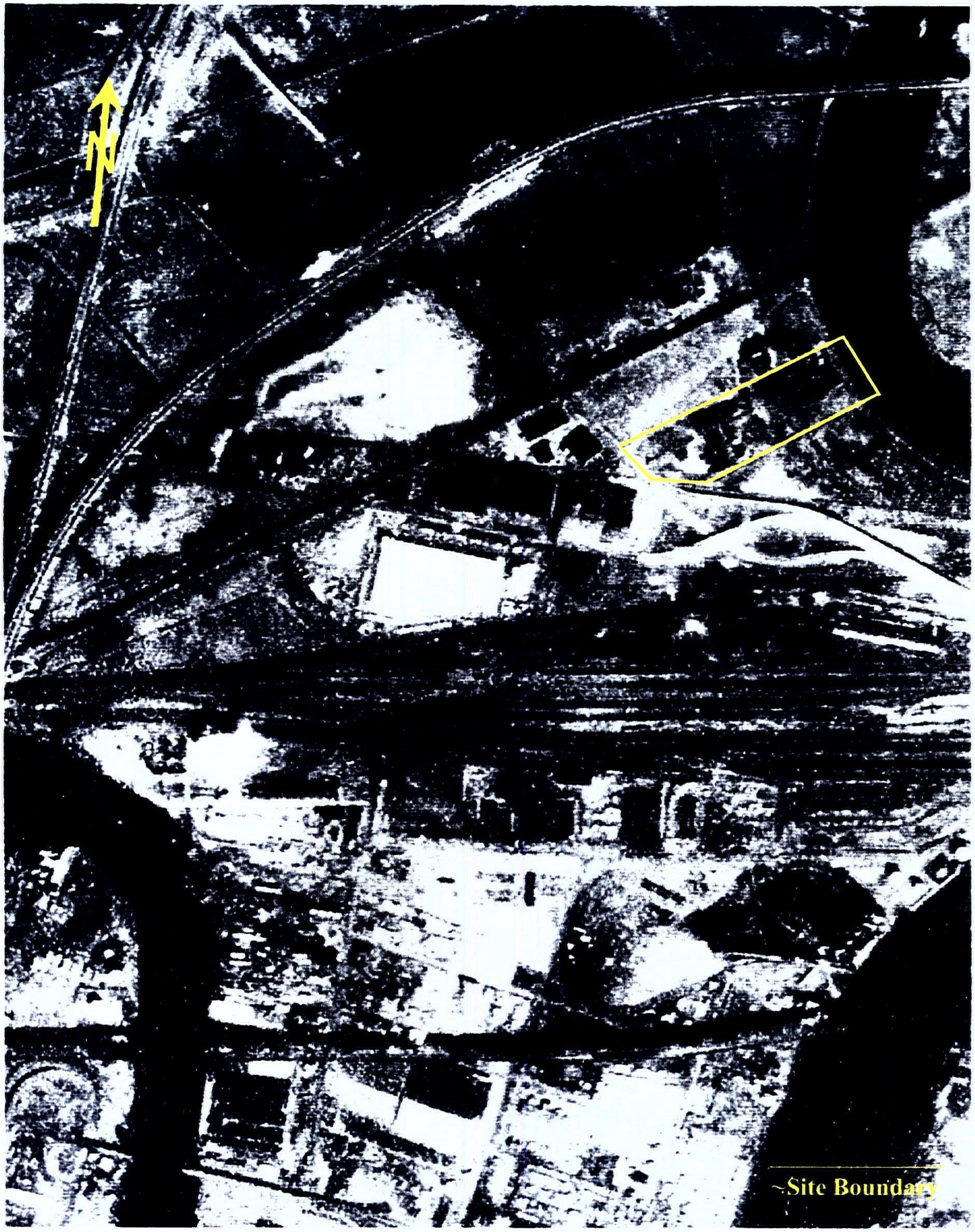
Approximate Scale



SCCC SITE AERIAL PHOTOGRAPH – 1966
(ENLARGED PORTION OF ORIGINAL)

0 450 900

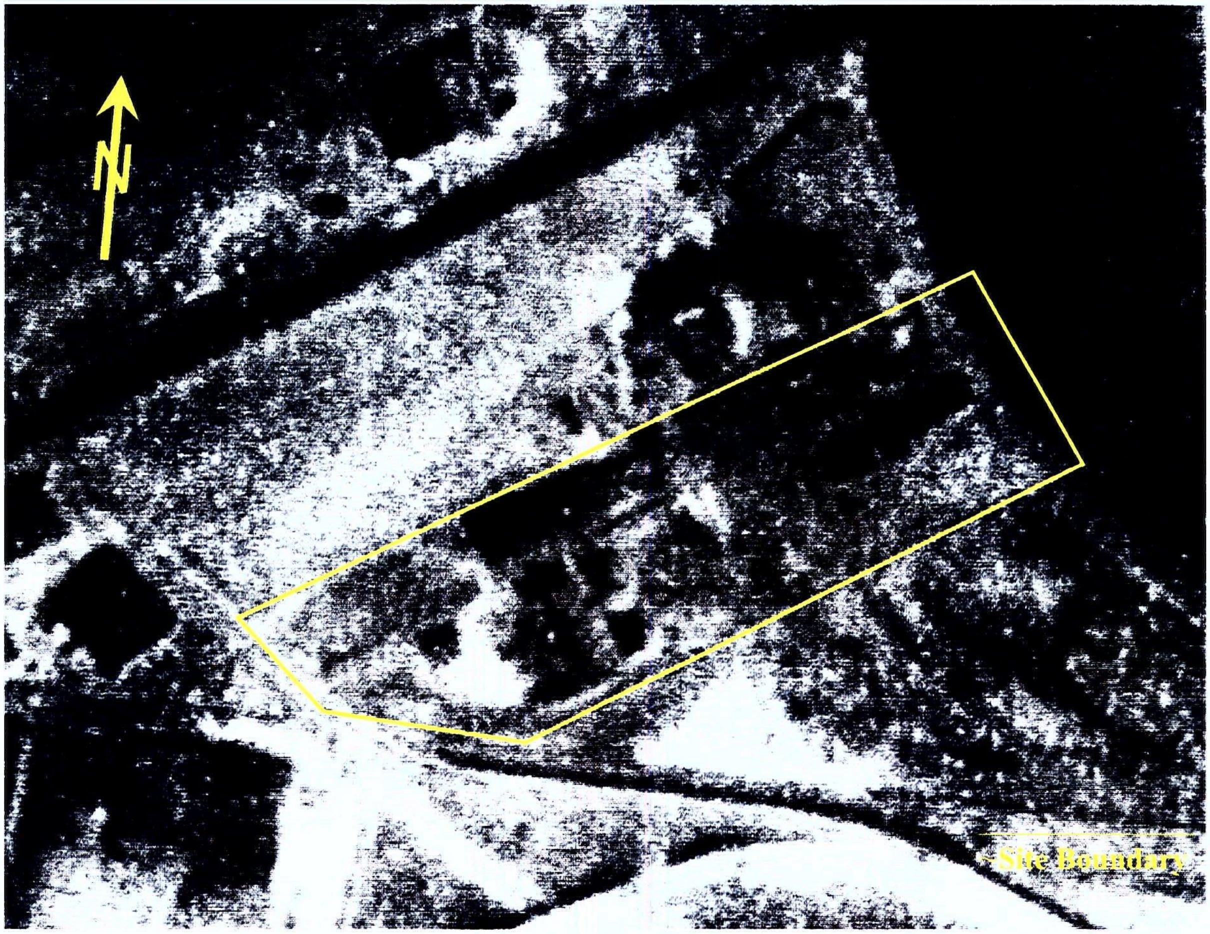
Approximate Scale



SCCC SITE AERIAL PHOTOGRAPH – 1976

0 1200 2400

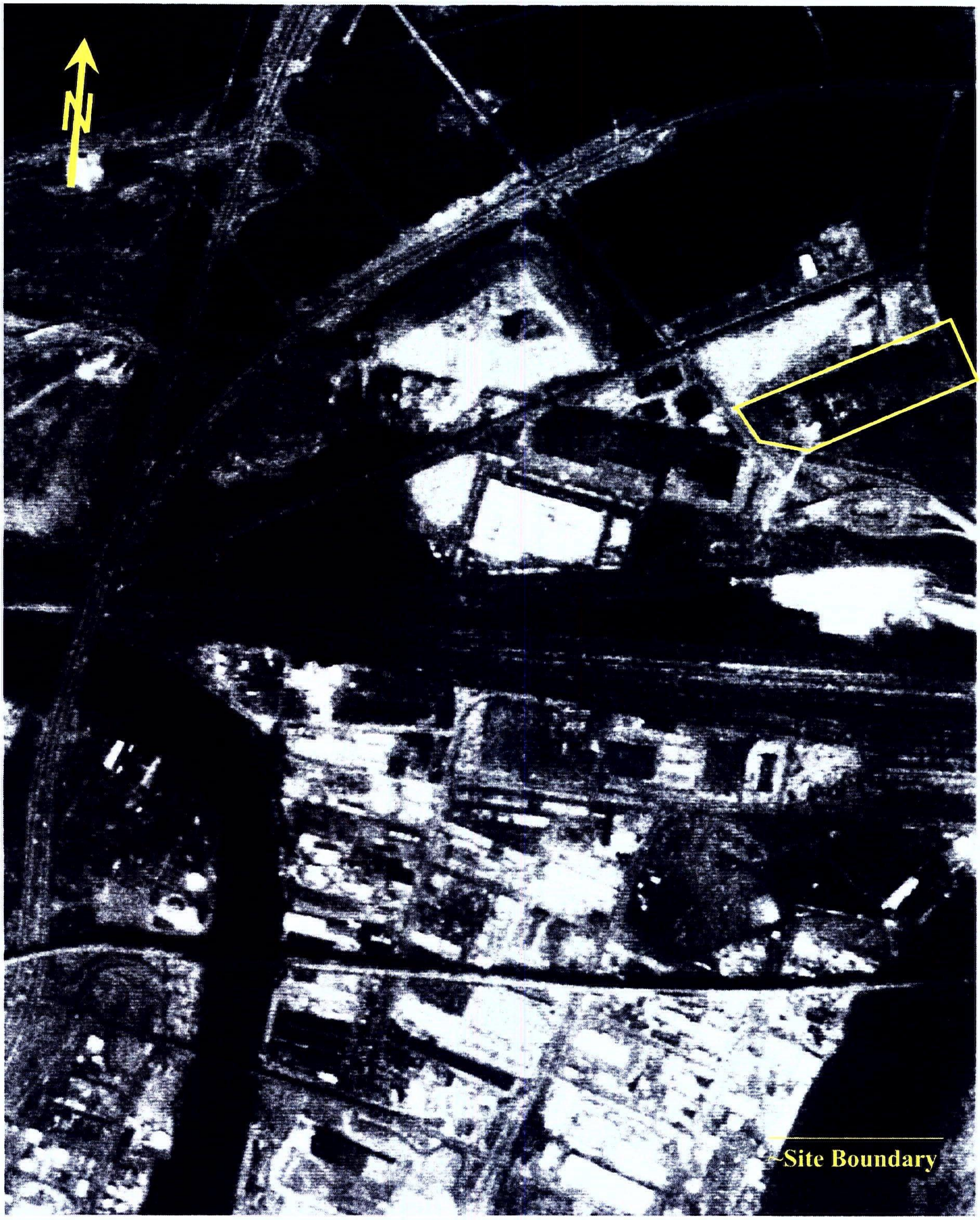
Approximate Scale



SCCC SITE AERIAL PHOTOGRAPH – 1976
(ENLARGED PORTION OF ORIGINAL)

0 450 900

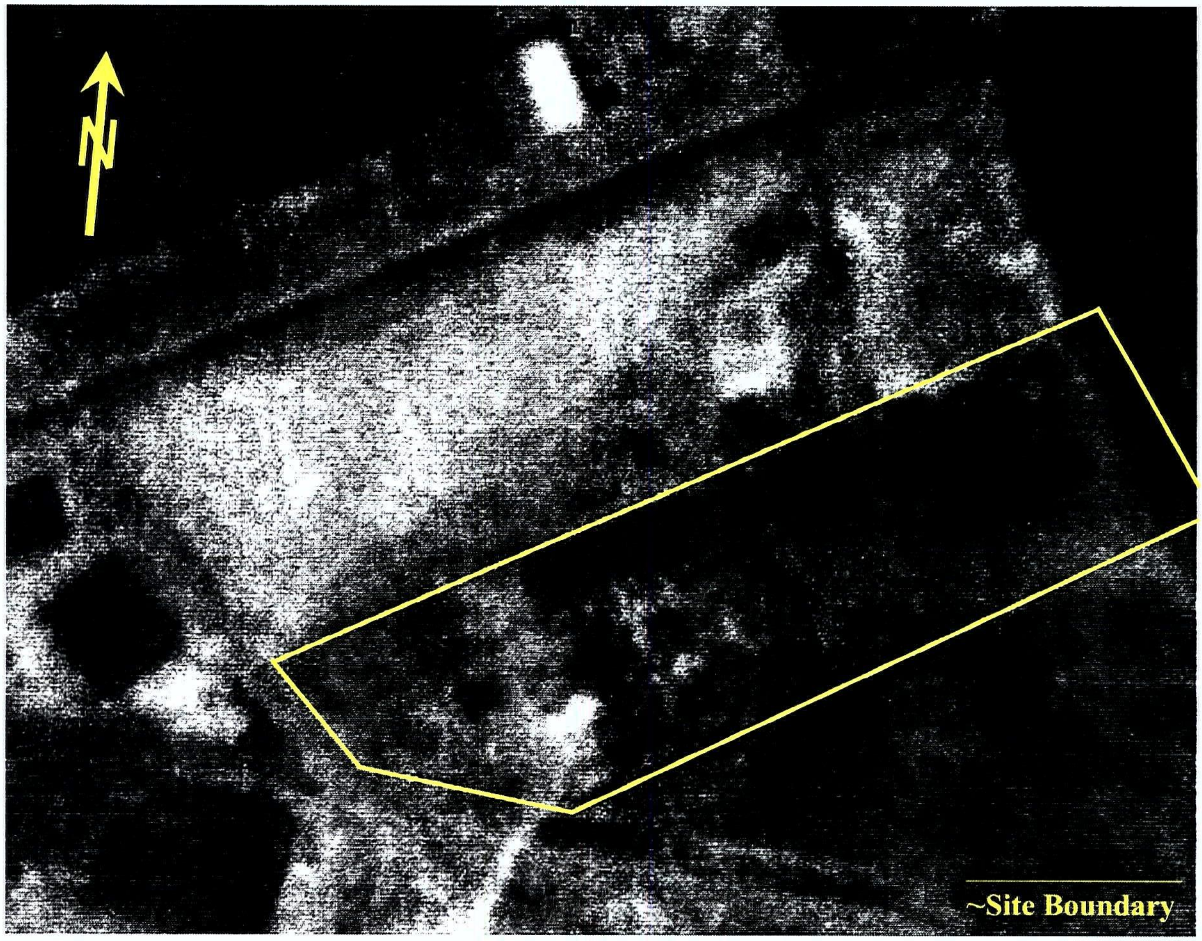
Approximate Scale



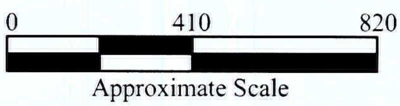
SCCC SITE AERIAL PHOTOGRAPH – 1985

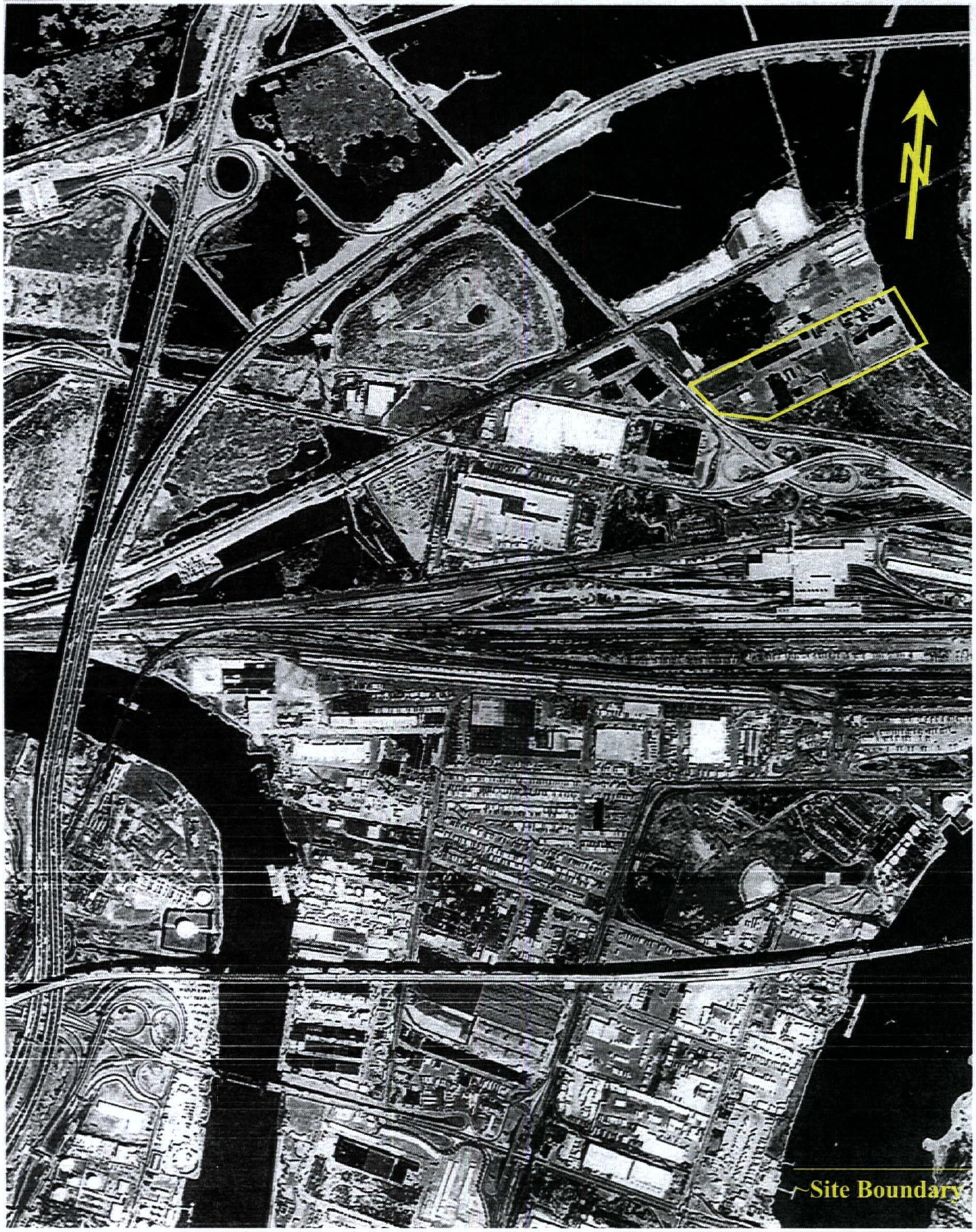
0 1300 2600

Approximate Scale



SCCC SITE AERIAL PHOTOGRAPH - 1985
(ENLARGED PORTION OF ORIGINAL)

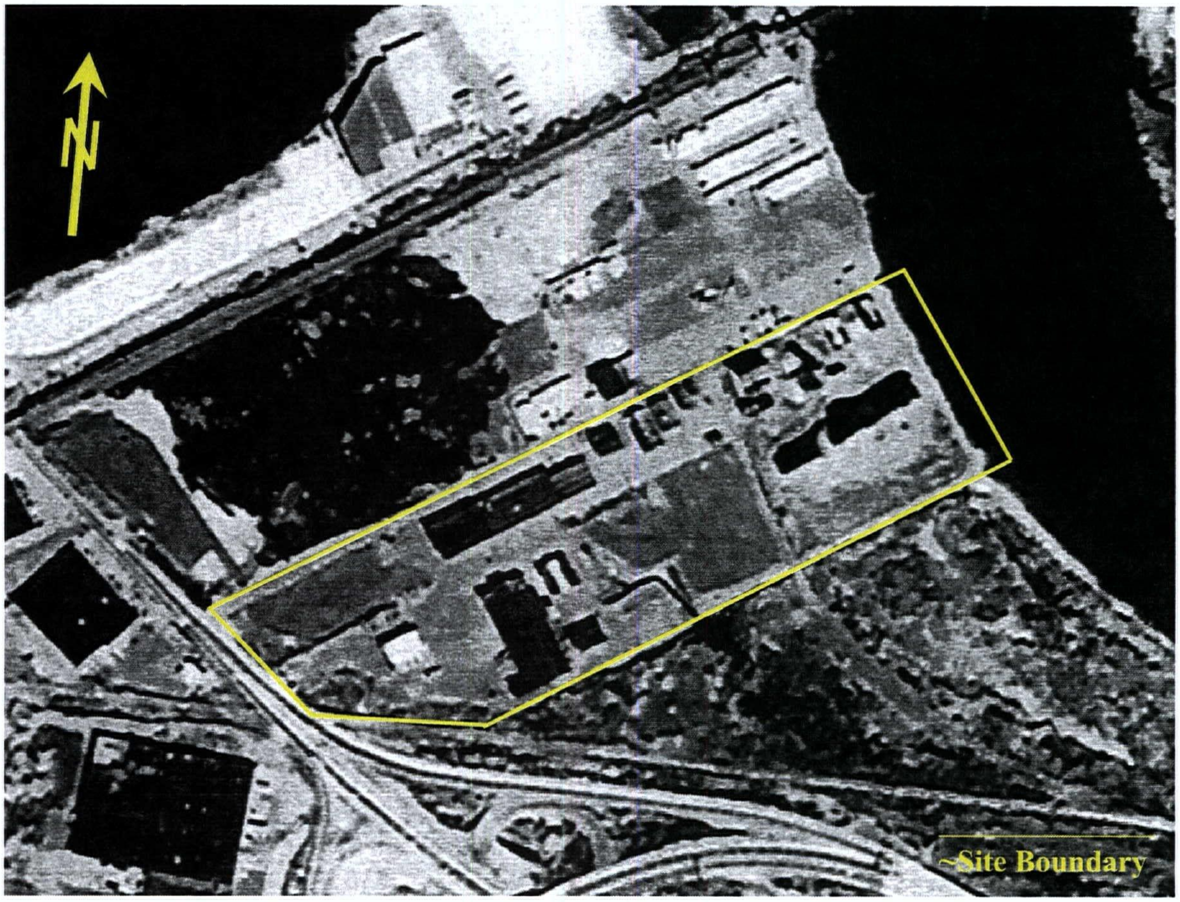




SCCC SITE AERIAL PHOTOGRAPH – 1995

0 1300 2600

Approximate Scale



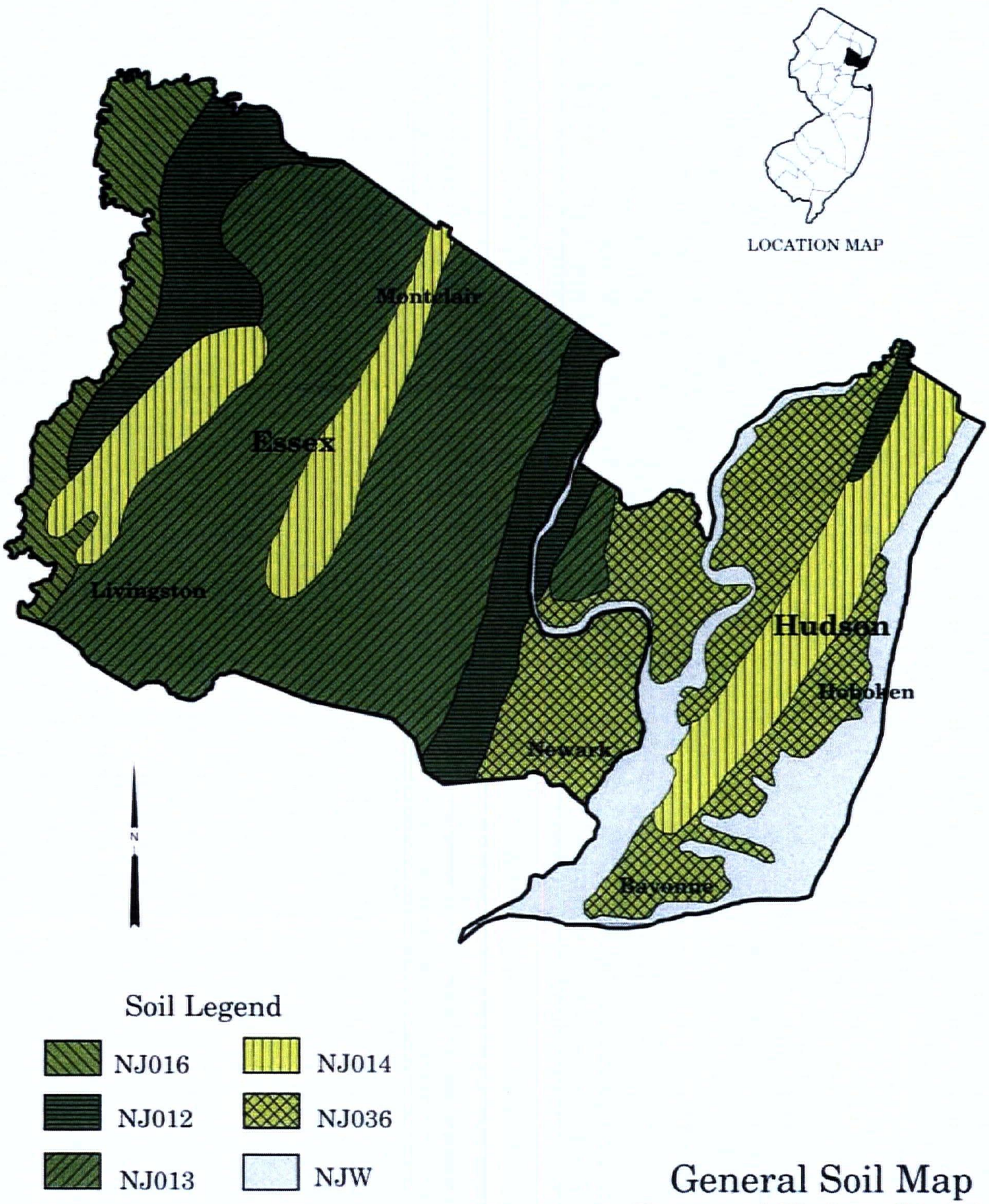
SCCC SITE AERIAL PHOTOGRAPH – 1995
(ENLARGED PORTION OF ORIGINAL)

0 470 940

Approximate Scale

APPENDIX B

GENERAL SOILS MAP



General Soil Map
Essex and Hudson Counties
New Jersey

0 1 2 3 4 5
MILES

SOURCE: Data compiled from SCS State Soil Geographic Database, U.S. Census TIGER data. Universal Transverse Mercator Projection, June 1993

SEPTEMBER 1993 1007822

USDA SCS NATIONAL CARTOGRAPHY & GIS CENTER FORT WORTH TX 1994

Essex and Hudson Counties - New Jersey

This general soil map shows the soils associations in Essex and Hudson Counties, New Jersey. Each map unit is a unique natural landscape with a distinctive pattern of soils, relief, and drainage. Typically, a map unit consists of three or more major soils and some minor soils. The soils making up one unit can occur in other units but in a different pattern.

The named components in a particular association, such as URBAN LAND-DUNELLEN-RIVERHEAD, are listed in descending order of occurrence in the map unit. URBAN LAND describes areas where 80 percent or more of the surface is covered with impervious material. No attempt is made to describe soils in this component of the association.

This map can be used to compare the suitability of large areas for general land uses. Because of its small scale, it is not suitable for planning the management of a farm, field or for selecting a site for a road, building or other structure. This map is not a substitute for on-site soil investigations for intensive land use planning.

Map Unit Symbol	Association Name	Description
NJ012	URBAN LAND-DUNELLEN-RIVERHEAD -	Nearly level to strongly sloping, deep and very deep, well drained gravelly, sandy loams. These soils formed in sandy, stratified glacial outwash on outwash plains and terraces and on river and stream terraces. Hydrologic group B. These soils are non-hydric.
NJ013	URBAN LAND-BOONTON-WETHERSFIELD -	Gently sloping to moderately steep, well drained and moderately well drained, very deep and deep gravelly loams formed in acid, reddish sandstone, shale, basalt and conglomerate glacial till over shale and basalt bedrock. These soils occur on upland glacial till plains and ridges. Hydrologic group C. These soils are non-hydric.
NJ014	BOONTON-URBAN LAND -WETHERSFIELD -	Gently sloping to very steep, well drained and moderately well drained, very deep and deep gravelly loams formed in acid, reddish sandstone, shale, basalt and conglomerate glacial till over shale and basalt bedrock. These soils occur on upland glacial till plains and ridges. Hydrologic group C. These soils are non-hydric.
NJ016	URBAN LAND-PARSIPPANY-HALEDON -	Nearly level to strongly sloping, poorly drained and somewhat poorly drained, very deep silt loams. Parsippany soils are poorly drained and formed in stratified, silty, old lake sediments in depressions and on low, level areas. Haledon soils formed in sandstone, shale and basalt glacial till over shale and basalt bedrock along drainageways, on broad till plains and ridges, and at the bases of till plains and ridges. Parsippany soils are in hyrologic group C/D and are hydric. Haledon soils are in hydrologic group C and are non-hydric.
NJ036	SULFAQUENTS-UDORTHENTS-PSAMMENTS -	Nearly level, very poorly drained, very deep mineral and organic soils on tide-flooded flats, and similar areas overlain by fill materials. Hydrologic group not assigned. Sulfaquents are hydric.
NJW	WATER	NJW WATER

Information:	
Contact:	District Conservationist
Location:	USDA-SCS Courthouse Morristown, NJ 07960
Telephone:	(201) 538-1552

APPENDIX C

WETLANDS MAPS AND CLASSIFICATION TABLE

WETLANDS AND DEEPWATER HABITATS CLASSIFICATION

SYSTEM: M - MARINE

SUBSYSTEM: 1 - SUBTIDAL

CLASS / Subclass:

- RB – ROCK BOTTOM
  - 1 Bedrock
  - 2 Rubble
- UB – UNCONSOLIDATED BOTTOM
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- AB – AQUATIC BED
  - 1 Algal
  - 3 Rooted Vascular
  - 5 *Unknown Submergent*
- RF - REEF
  - 1 Coral
  - 3 Worm
- OW - *OPEN WATER/ Unknown Bottom*

SUBSYSTEM: 2 - INTERTIDAL

CLASS / Subclass:

- AB – AQUATIC BED
  - 1 Algal
  - 3 Rooted Vascular
  - 5 *Unknown Submergent*
- RF– REEF
  - 1 Coral
  - 3 Worm
- RS – ROCKY SHORE
  - 1 Bedrock
  - 2 Rubble
- US - UNCONSOLIDATED SHORE
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic

SYSTEM: E - ESTUARINE

SUBSYSTEM: 1 - SUBTIDAL

CLASS / Subclass:

- RB - ROCK BOTTOM
  - 1 Bedrock
  - 2. Rubble
- UB – UNCONSOLIDATED BOTTOM
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- AB – AQUATIC * BED
  - 1 Algal
  - 3 Rooted Vascular
  - 4 Floating Vascular
  - 5 *Unknown Submergent*
  - 6 *Unknown Surface*
- RF – REEF
  - 1 Mollusc
  - 2 Worm
- OW - *OPEN WATER/ Unknown Bottom*

SUBSYSTEM: 2 - INTERTIDAL

CLASS / Subclass:

- AB – AQUATIC BED
  - 1 Algal
  - 3 Rooted Vascular
  - 4 Floating Vascular
  - 5 *Unknown Submergent*
  - 6 *Unknown Surface*
- RF– REEF
  - 1 Mollusc
  - 2 Worm
- SB – STREAMBED
  - 1 Cobble Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- RS - ROCKY SHORE
  - 1 Bedrock
  - 2 Rubble
- US – UNCONSOLIDATED SHORE
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- EM -EMERGENT
  - 1 Persistent
  - 2 Nonpersistent
- SS – SCRUB-SHRUB
  - 1 Broad-Leaved Deciduous
  - 2 Needle-Leaved Deciduous
  - 3 Broad-Leaved Evergreen
  - 4 Needle-Leaved Evergreen
  - 5 Dead
  - 6 *Deciduous*
  - 7 *Evergreen*
- FO – FORESTED
  - 1 Broad-Leaved Deciduous
  - 2 Needle-Leaved Deciduous
  - 3 Broad-Leaved Evergreen
  - 4 Needle-Leaved Evergreen
  - 5 Dead
  - 6 *Deciduous*
  - 7 *Evergreen*

SYSTEM: R - RIVERINE

SUBSYSTEM: 1 – TIDAL; 2 – LOWER PERENNIAL; 3 – UPPER PERENNIAL; 4 – INTERMITTENT; 5 – *UNKNOWN PERENNIAL*

CLASS / Subclass:

- RB – ROCK BOTTOM
  - 1 Bedrock
  - 2 Rubble
- UB – UNCONSOLIDATED BOTTOM
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- *SB – STREAMBED
  - 1 Bedrock
  - 2 Rubble
  - 3 Cobble Gravel
  - 4 Sand
  - 5 Mud
  - 6 Organic
  - 7 Vegetated
- AB – AQUATIC BED
  - 1 Algal
  - 2 Aquatic Moss
  - 3 Rooted Vascular
  - 4 Floating Vascular
  - 5 *Unknown Submergent*
  - 6 *Unknown Surface*
- RS – ROCKY SHORE
  - 1 Bedrock
  - 2 Rubble
- US – UNCONSOLIDATED SHORE
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
  - 5 Vegetated
- **EM – EMERGENT
  - 2 Nonpersistent
- OW – *OPEN WATER/ Unknown Bottom*

* STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM.
** EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS.

Classification of Wetlands and Deepwater Habitats of the United States
Cowardin ET AL. 1979 as modified for National Wetland Inventory Mapping Convention

WETLANDS AND DEEPWATER HABITATS CLASSIFICATION

SYSTEM: L- LACUSTRINE

SUBSYSTEM: 1 - LIMNETIC

CLASS	RB – ROCK BOTTOM	UB – UNCONSOLIDATED BOTTOM	AB – AQUATIC BED	OW – *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2. Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	

SUBSYSTEM: 2 - LITTORAL

CLASS	RB – ROCK BOTTOM	UB – UNCONSOLIDATED BOTTOM	AB – AQUATIC BED	RS – ROCKY SHORE	US – UNCONSOLIDATED SHORE	EM – EMERGENT	OW – *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2. Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Bedrock 2. Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

SYSTEM: P - PALUSTRINE

CLASS	RB – ROCK BOTTOM	UB – UNCONSOLIDATED BOTTOM	AB – AQUATIC BED	US – UNCONSOLIDATED SHORE	ML – MOSS-LICHEN	EM – EMERGENT	SS – SCRUB-SHRUB	FO – FORESTED	OW – *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2. Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	

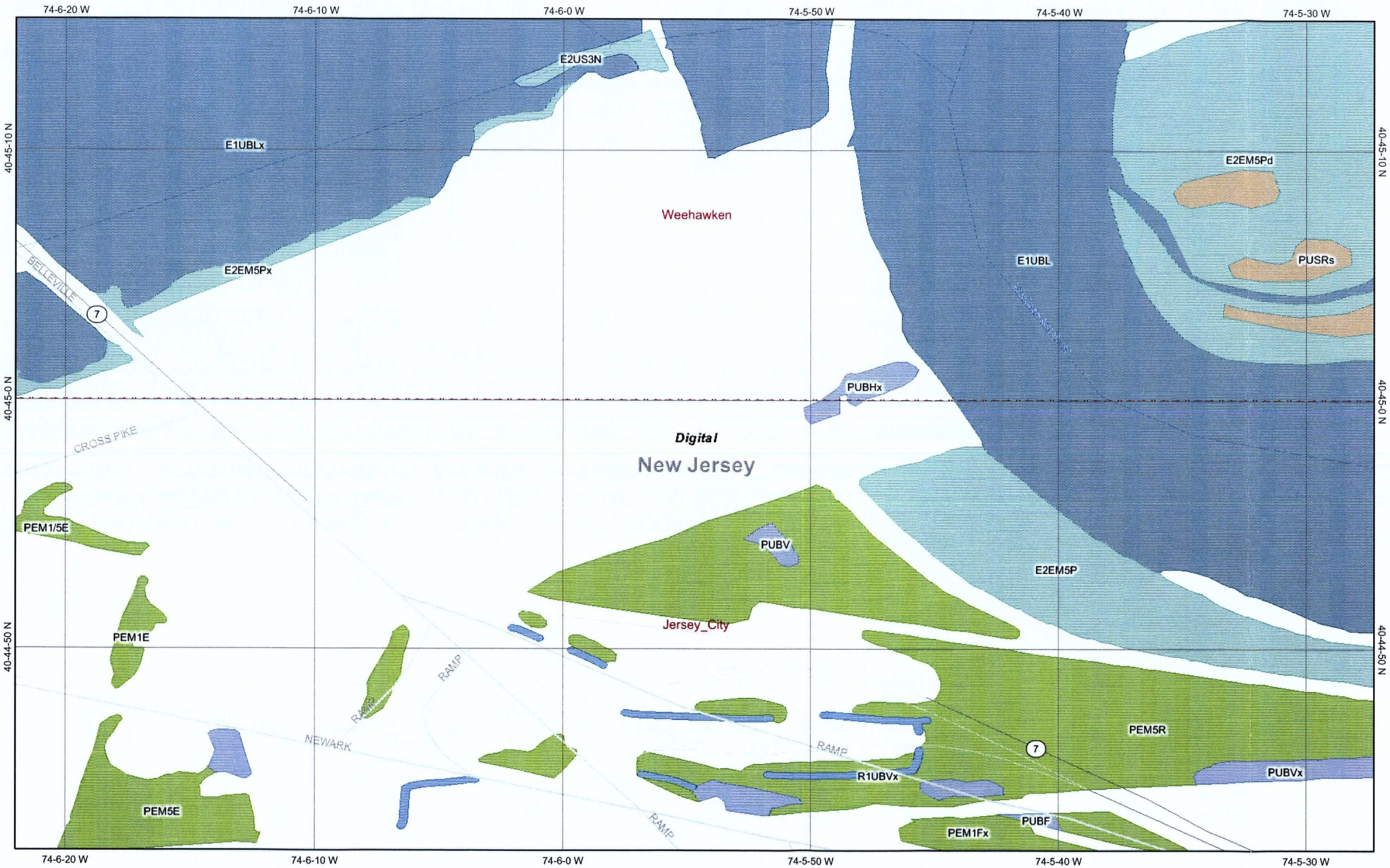
MODIFIERS

In order to more adequately describe the wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

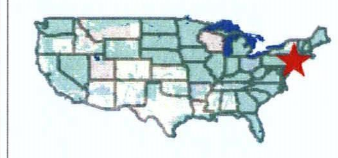
WATER REGIME				WATER CHEMISTRY			SOIL	SPECIAL MODIFIERS	
Non-Tidal		**Tidal**		**Coastal Halinity**	**Inland Salinity**	**pH Modifiers for all Fresh Water**			
A Temporarily Flooded B Saturated C Seasonally Flooded D *Seasonally Flooded/ Well Drained* E *Seasonally Flooded/ Saturated* F Semipermanently Flooded G Intermittently Exposed	H Permanently Flooded J Intermittently Flooded K Artificially Flooded W Intermittently Flooded/Temporary Y Saturated/Semipermanent/ Seasonal Z Intermittently Exposed/Permanent U *Unknown*	K *Artificially Flooded* L Subtidal M Irregularly Exposed N Regularly Flooded P Irregularly Flooded	*S Temporary-Tidal *R Seasonal-Tidal *T Semipermanent-Tidal *V Permanent-Tidal U *Unknown* *These water regimes are only used in tidally influenced, freshwater systems.	1 Hyperhaline 2 Euthaline 3 Mixohaline *(Brackish)* 4 Polyhaline 5 Mesohaline 6 Oligohaline 0 Fresh	7 Hypersaline 8 Eusaline 9 Mixosaline 0 Fresh	a Acid t Circumneutral i Alkaline	g Organic n Mineral	b *Beaver* d *Partially Drained/Ditched* f Farmed	h *Diked/Impounded* r Artificial Substrate s *Spoil* x Excavated

NOTE: Italicized terms were added for mapping by the National Wetlands Inventory program.

National Wetlands Inventory Map (1:5,000)



Map center: 40° 44' 58.5" N, 74° 5' 54.6" W



Legend

CONUS_wet_scan
- 0
- 1
- Out of range

Major Roads
- Other Road
- Interstate
- State highway
- US highway

Roads

Cities

USGS Quad Index 24K

Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan

NHD Streams

Counties 100K

States 100K

South America

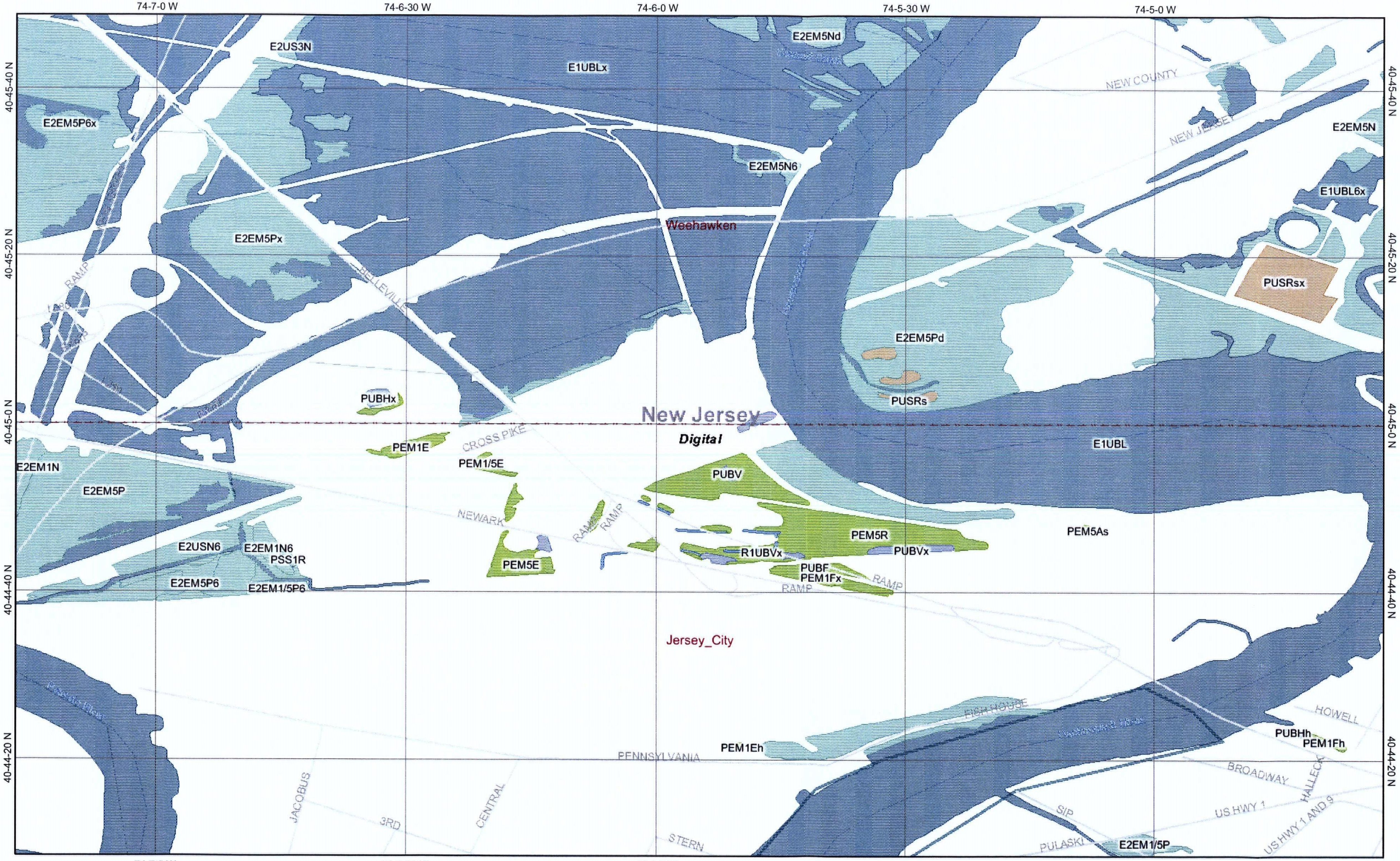
North America

N

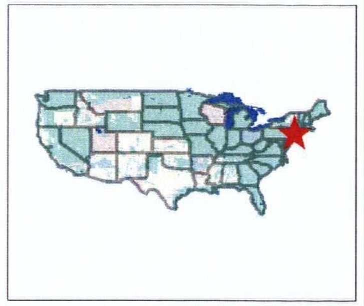
Scale: 1:5,000

Notes: Source: U.S. Fish & Wildlife Service Wetlands Online Mapper

National Wetlands Inventory Map (1:15,000)



Map center: 40° 44' 59" N, 74° 5' 55" W



Legend

CONUS_wet_scan

- 0
- 1
- Out of range

Roads

Cities

USGS Quad Index 24K

Lower 48 Wetland Polygons

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Lower 48 Available Wetland Data

- Non-Digital
- Digital
- No Data
- Scan

NHD Streams

Counties 100K

States 100K

South America

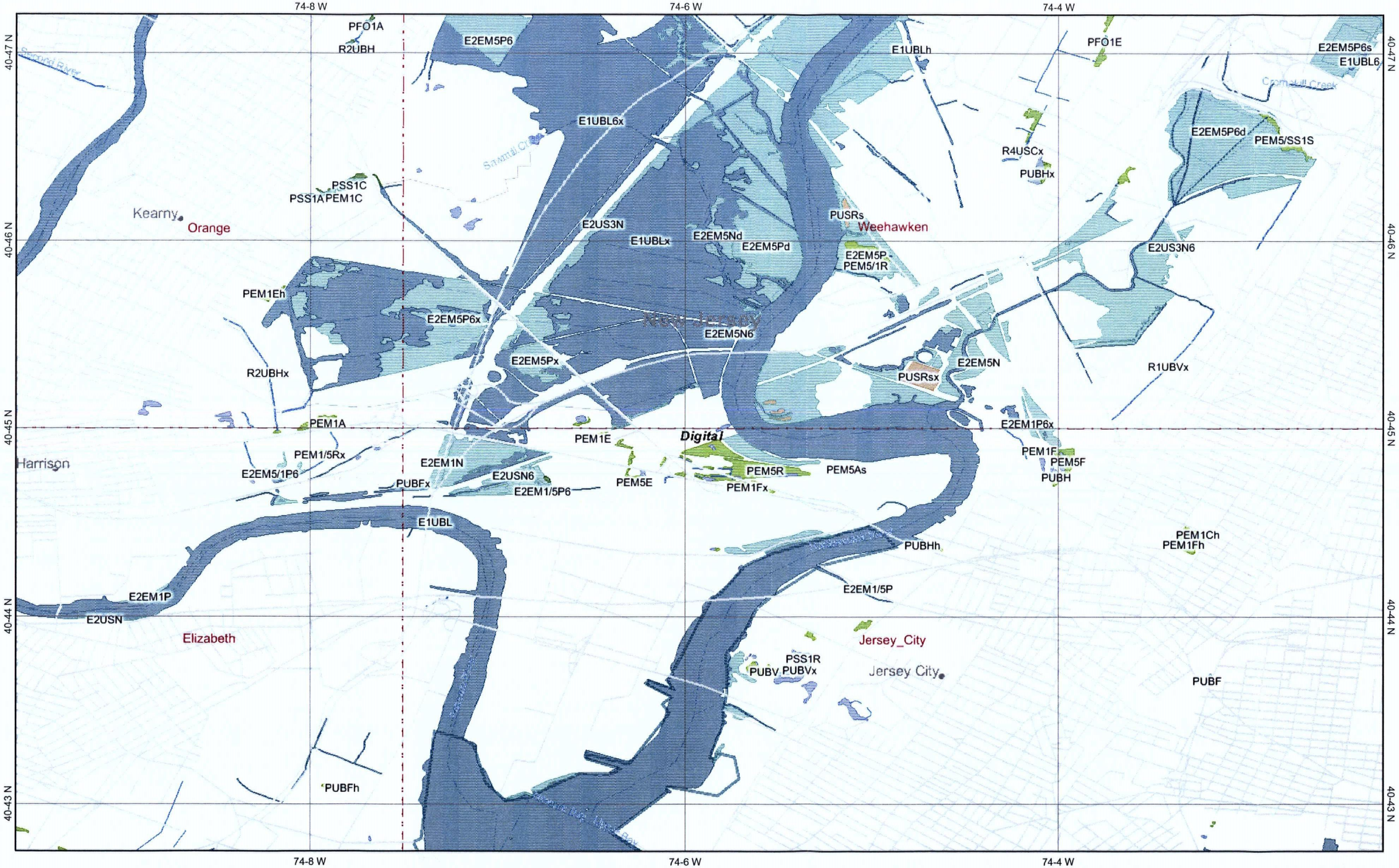
North America

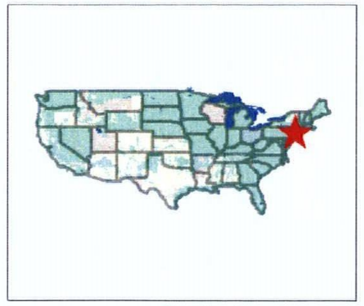
Scale: 1:15,000

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: Source: U.S. Fish & Wildlife Service Wetlands Online Mapper

National Wetlands Inventory Map (1:40,000)





Legend

CONUS_wet_scan
- 0
- 1
- Out of range

Roads

Cities

USGS Quad Index 24K

Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan

NHD Streams

Counties 100K

States 100K

South America

North America

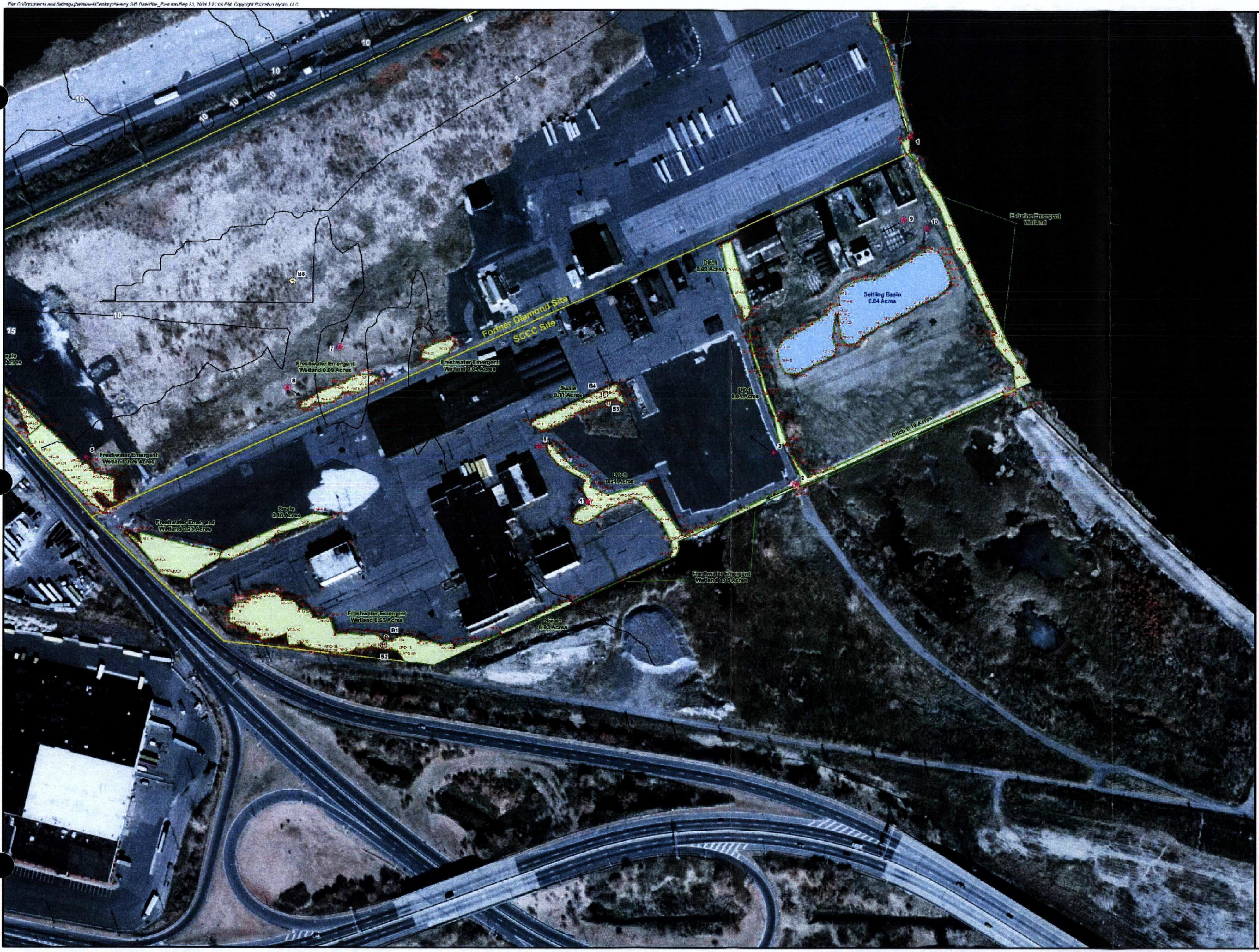
Map center: 40° 44' 59" N, 74° 5' 55" W

N

Scale: 1:40,000

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: Source: U.S. Fish & Wildlife Service Wetlands Online Mapper



DATA SOURCES / NOTES

1. SITE BOUNDARIES ARE NOT AN OFFICIAL PLS SURVEY. SITE BOUNDARIES MAY BE INACCURATE
2. 2002 AERIAL PHOTOGRAPH OBTAINED FROM NJ DEP (IMAGE WAREHOUSE)
3. PHOTO LOCATIONS AND BORING LOCATIONS LOCATED ON MAP THROUGH HEADS-UP DIGITIZING
4. WETLAND LINE AND FLAGS SURVEYED BY GEOD SURVEYING AND AERIAL MAPPING, NEWFOUNDLAND, NEW JERSEY
6. CONTOURS CREATED FROM 10 METER DIGITAL ELEVATION MODEL. CONTOURS DO NOT REPRESENT ON-SITE TOPOGRAPHY

Feet
0 90
1 inch equals 90 feet

Contours 5ft Intervals
Site Boundaries
Wetland Flags
Non-Regulated Water Feature
Wetland Areas
Boring Locations
Photo Locations

N

PRINCETON HYDRO, LLC
pHi
SCIENTISTS AND ENGINEERS
1108 OLD YORK ROAD, SUITE 1
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RINGOES, NEW JERSEY 08551
PHONE. 908.237.5660
FAX. 908.237.5666
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:

KEY ENVIRONMENTAL
STANDARD CHLORINE CHEMICAL COMPANY & FORMER DIAMOND SITE
TOWN OF KEARNY
HUDSON COUNTY, NEW JERSEY

DRAWING NAME

SITE PLAN

BLOCK 287
LOTS 46, 47, 48, 49, 50, 51, 52 & 52R

DATE:	August 16, 2004
PROJECT NO.:	0502.002
SCALE:	1" = 90
DRAWN BY:	JPR
CHECKED BY:	HC

SHEET NO.:

1 OF 1

APPENDIX D

BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

ROY F. WESTON, INC.
LAGOON DIOXIN INVESTIGATION
(1987)

WESTON

BORING LOG

SITE ID: East Lagoon
METHOD : Vibracore, Split Spoon,Driven
FIELD REP: R. McAlister
WATER DEPTH: 1.75 FT.

LOCATION ID: A
DATE STARTED: 10 March 1987
DATE COMPLETE: 11 March 1987
BACKGROUND OVA: Set to 1.0 units

DEPTH (FT)	DESCRIPTION
0 - 1.6	Med. brown silt, soft, w/abundant opaque, white, bladed crystals, 0.5 in. long (approx.), semiconsolidated. OVA: 15 - 20 units. Sample: A-1 (vibracore), 0.5 - 1.5 ft.
1.6 - 2.25	Black tar, soft, w/trace brown silt. OVA: to 10 units. Sample: A-2-SS (Split Spoon) 1.8 - 2.2 ft.
2.25 - 2.6	Med. gray, fine sand and silt, trace black tar. OVA: 4 - 8 units. Sample: A-3-SS, 2.3 - 2.5 ft.
2.6 - 4.8	Black, soft tar, trace silt, trace debris. OVA: 4 - 6 units. Sample: A-4-SS, 1.8 - 2.4 ft.
4.8 - 5.7	Dark brown, soft peat and silt, trace fine sand, with abundant roots. (MEADOW MAT) OVA: 2 - 3 units.
	TOTAL DEPTH: 5.7 ft.

NOTES: See text for location of boring.

WESTON

BORING LOG

SITE ID: East Lagoon
METHOD : Vibracore; Split Spoon,Drive
FIELD REP: R. McAlister
WATER DEPTH: 0.7 FT

LOCATION ID: B
DATE STARTED: 10 March 1987
DATE COMPLETE: 10 March 1987
BACKGROUND OVA: Set to 1.0

DEPTH (FT)	DESCRIPTION
0 - 1.4	Med. brown silt, soft, w/abundant opaque, white, bladed crystals, 0.5 in. long (approx.), semiconsolidated. OVA: 15 - 20 units. Sample: B-1 (vibracore) 0.4 - 1.2 ft.
1.4 - 3.4	Black tar, soft, w/some med. brown silt. OVA: 10 units.
3.4 - 4.0	Med. brown silt and olive green sand, f., red gravel, soft, w/some crystals, bladed and granular. OVA: 10 - 15 units. Sample: B-2-SS (Split Spoon), 3.5 - 4.8 ft.
4.0 - 6.0	Black tar, soft, w/trace to little brown silt. Brick and wood fragments throughout. OVA: slowly increased to 10 units. Sample: B-3-SS, 4.3 - 5.0 ft. B-4-SS, 5.3 - 5.9 ft.
6.0 - 6.6	Dark brown peat and silt, w/trace fine sand, soft, with abundant roots. (MEADOW MAT) OVA: 2 - 3 units.

TOTAL DEPTH: 6.6 ft.

NOTES: See text for location of boring. Approximately 1.0 ft. of material, from depth 2.4 to 3.4 was not recovered in the spoon. Because of the very low blow count, and because of residue identified on the outisde of the spoon, this material is assumed to have been tar.

WESTON

BORING LOG

SITE ID: West Lagoon
METHOD: Vibracore; Split Spoon, Driven
FIELD REP: R. McAlister
WATER DEPTH: 2.3 FT

LOCATION ID: C
DATE STARTED: 27 Feb. 1987
DATE COMPLETE: 10 Mar. 1987
BACKGROUND OVA: Set to 1.0

DEPTH (FT)	DESCRIPTION
0 - 1.0	Medium brown silt, soft, w/abundant opaque, white bladed crystals, 0.5 in. long (approx.), semiconsolidated. OVA: 15 - 20 units. Sample: C-1 (vibracore). 0 - 0.8 ft.
1.0 - 2.3	Black tar, soft, w/trace to little silt, brick and wood fragments. OVA: 20 units. Sample: C-2H-SS, 1.2 - 2.1 ft.
2.3 - 4.1	Black tar, soft, some brown-red silt. OVA: 5 - 7 units. Sample: C-3-SS, 3.4 - 3.9 ft.
4.1 - 5.4	Dark brown sand (medium), stained, and black tar, soft, w/brick fragments. OVA: 2 - 3 units. Sample: C-4-SS, 4.4 - 5.3 ft.
5.4 - 6.0	Dark brown peat and silt, soft, trace fine sand, w/ abundant roots (MEADOW MAT). OVA: 2 - 3 units.

TOTAL DEPTH: 6.0 ft.

NOTES: See text for location of boring.

WESTON

BORING LOG

SITE ID: West Lagoon
METHOD: Vibracore; Split Spoon, Driven
FIELD REP: R. McAlister
WATER DEPTH: 1.7 FT.

LOCATION ID: D
DATE STARTED: 26 Feb. 1987
DATE COMPLETE: 9 Mar. 1987
BACKGROUND OVA: Set to 1.0 units

DEPTH (FT)	DESCRIPTION
0 - 1.0	Medium brown silt, soft, w/some opaque, white, bladed crystals. Some black tar, wood fragments. OVA: to 25 units. Sample: D-1 (vibracore), 0.1 - 0.9 ft.
1.0 - 5.7	Black tar, soft, w/some medium brown silt at top. Trace fine sand, trace brick and wood debris. OVA: 20 units. Samples: D-2-SS, 2.0 - 2.5 ft. D-3-SS, 3.5 - 4.0 ft. D-4-SS, 5.0 - 5.5 ft.
5.7 - 6.5	Dark brown peat and silt, soft, trace fine sand, abundant roots (MEADOW MAT). OVA: 2 - 4 units.

TOTAL DEPTH: 6.5 ft.

NOTES: See text for location of boring.

BORING LOG

SITE ID:	West Lagoon	LOCATION ID:	E
METHOD :	Vibracore; Split Spoon, Driven	DATE STARTED:	26 Feb. 1987
FIELD REP:	R. McAlister	DATE COMPLETE:	17 Mar. 1987
WATER DEPTH:	5.6 FT.	BACKGROUND OVA:	Set to 1.0

DEPTH (FT)	DESCRIPTION
0 - 0.7	Black to brown tar, soft, medium brown silt and sand (f.) and opaque white to yellow granular crystals. OVA: 25 - 30 units. Samples: E-1 (vibracore), 0 - 0.5 ft.
0.7 - 1.4	Medium brown silt and sand (vf.) and black tar, hard. OVA: to 12 units. Sample: E-2-SS, 0.8 - 1.3 ft.
1.4 - 2.4	Black tar mixed w/brown-red silt, w/abundant brick and wood debris. OVA: 7 - 8 units Samples: E-3-SS, 1.6 - 1.9 ft. E-4-SS, 2.0 - 2.3 ft.
2.4 - 2.8	Dark brown peat and silt, soft, trace fine sand abundant roots (MEADOW MAT). OVA: 2 - 4 units.

TOTAL DEPTH: 2.8 ft.

NOTE: See text for location of boring.

WESTON

BORING LOG

SITE ID: West Lagoon
METHOD : Vibracore; Split Spoon, Driven
FIELD REP: R. McAlister
WATER DEPTH: 3.0 FT.

LOCATION ID: F
DATE STARTED: 26 Feb. 1987
DATE COMPLETE: 6 Mar. 1987
BACKGROUND OVA: Set to 1.0

DEPTH (FT)	DESCRIPTION
0 - 0.6	Medium brown silt, soft, w/abundant opaque white bladed crystals. Hard. OVA: to 25 units Sample: F-1 (vibracore), 0 - 0.6 ft.
0.6 - 5.5	Black tar, soft. * Sample: F-4-SS, 5.0 - 5.5 ft.
5.5 - 6.0	Dark brown silt and peat, soft, w/some brown to gray, fine to medium sand, abundant roots. (MEADOW MAT). OVA: 3.0.
	TOTAL DEPTH: 6.0 ft.

NOTES: See text for location of boring.

* Interval between 0.6 - 5.0 ft. was not recovered in four attempts. Hard material recovered from 0 - 0.6 ft. was believed to displace the very soft tar and prevent entry into the spoon.

WESTON

BORING LOG

SITE ID: West Lagoon
METHOD : Vibracore, Split Spoon, Driven
FIELD REP: R. McAlister
WATER DEPTH: 3.0 FT.

LOCATION ID: G
DATE STARTED: 26 Feb. 1987
DATE COMPLETE: 6 Mar. 1987
BACKGROUND OVA: Set to 1.0

DEPTH (FT)	DESCRIPTION
0 - 1.0	Opaque, white, bladed crystals, 0.1 in. long (approx), hard, mixed w/dark brown to black silt and gravel. OVA: to 15 units. Sample: G-1 (vibracore), 0 - 0.8 ft.
1.0 - 3.0	Black tar, soft, w/trace brown silt. Trace wood fragments. OVA: 3 - 4 units. Sample: G-2-SS, 1.5 - 2.5 ft.
3.0 - 3.7	Medium brown sand (fine) and silt. OVA: 2 - 3 units. Sample: G-3-SS, 3.0 - 3.5 ft.
3.7 - 4.4	Black tar, very soft. OVA: 2 - 3 units. Sample: G-4-SS, 4.0 - 4.3 ft.
4.4 - 5.6	Dark brown peat and silt, soft, trace reddish brown gravel, abundant roots. (MEADOW MAT) OVA: 3 units.

TOTAL DEPTH: 5.6 ft.

NOTE: See text for location of boring.

WESTON

BORING LOG

SITE ID: West Lagoon
METHOD :Vibracore; Split Spoon, Driven
FIELD REP: R. McAlister
WATER DEPTH: 2.3 ft.

LOCATION ID: H
DATE STARTED: 26 Feb. 1987
DATE COMPLETE: 6 Mar. 1987
BACKGROUND OVA: Set to 1.0

DEPTH (FT)	DESCRIPTION
0 - 1.5	Light brown fine sand and silt, soft, some dark brown gravel, abundant opaque, white, bladed crystals, few brick and wood fragments. OVA: 15 - 20 units. Sample: H-1 (vibracore), 0.2 - 1.2 ft.
1.5 - 2.2	Light brown silt, soft, trace wood fragments. OVA: 1 - 3 units. Sample: H-2-SS, 1.7 - 2.1 ft.
2.2 - 4.7	Black tar, soft, w/abundant brick and wood fragments, trace silt, trace gravel. OVA: 1 - 3 units. Samples: H-3-SS, 2.9 - 3.5 ft. H-4-SS, 4.1 - 4.7 ft.
4.7 - 5.3	Dark brown silt, some peat, some sand, abundant roots (MEADOW MAT). OVA: 2.5 - 3.0 units.
	TOTAL DEPTH: 5.3 ft.

NOTE: See text for location of boring.

WESTON

BORING LOG

SITE ID: West Lagoon
METHOD : Vibracore, Split Spoon, Driven
FIELD REP: R. McAlister
WATER DEPTH: 1.5 ft.

LOCATION ID: I
DATE STARTED: 27 Feb. 1987
DATE COMPLETE: 17 Mar. 1987
BACKGROUND OVA: Set to 1.0

DEPTH (FT)	DESCRIPTION
0 - 0.9	Opaque white, bladed crystals, mixed w/granular white crystals, hard. Trace of light brown silt, soft. OVA: to 50 units. Sample: I-1H (vibracore), 3 jars collected, 0 - 0.8 ft.
0.9 - 1.9	Dark brown to black, granular debris, w/abundant bladed crystals. OVA: to 20 units. Sample: I-2-SS, 1.3 - 1.8 ft.
1.9 - 4.1	Medium brown silt and sand (f.) mixed w/brick and wood fragments, abundant white bladed crystals throughout. OVA: to 20 units. Sample: I-3-SS, 2.5 - 3.5 ft.
4.1 - 5.5	Medium brown silt and sand (f) mixed w/tar (black, some brick and wood fragments. OVA: to 10 units. Sample: I-4-SS, 4.5 - 5.5 ft.
5.5 - 6.1	Black tar, thick, with some small brick fragments. OVA: 2 - 3 units.
6.1 - 6.7	Dark brown silt and peat, trace sand, abundant roots (MEADOW MAT). OVA: 2 - 3 units

TOTAL DEPTH: 6.7 ft.

NOTE: See text for location of boring.

WESTON

BORING LOG

SITE ID: East Lagoon
LOCATION ID: J
METHOD : Vibracore; Split-Spoon, Drive
DATE STARTED: 27 Feb., 1987
FIELD REP: T. Marks
DATE COMPLETE: 12 Mar., 1987
WATER DEPTH: 0.4 ft.
BACKGROUND OVA: Set to 1.0

DEPTH (FT)	DESCRIPTION
0 - 2.3	Opaque white, bladed crystals, w/trace lt. to med. brown silt, trace granular white crystals. OVA: to 90 units. Sample: J-1H (vibracore), 3 jars collected, 0.1 - 1.1 ft.
2.3 - 2.7	Lt. - med. brown silt, hard, mixed w/opaque white bladed crystals. OVA: >100 units. Sample: J-2-SS, 2.3 - 2.6 ft.
2.7 - 4.0	Dk. brown - black sand, loose, w/trace to some crystals, white-brown. OVA: 10-15 units. Sample: J-3-SS, 2.9 - 3.9 ft.
4.0 - 5.9	Black tar w/debris, predominantly small brick fragments. OVA: 2 - 5 units Sample: J-4-SS, 5.0 -5.8 ft.
5.9 - 6.2	Dark brown silt and peat, trace sand, roots (MEADOW MAT). OVA: 3 units TOTAL DEPTH: 6.2 ft.

NOTE: See text for location of boring.

WESTON

BORING LOG

SITE ID: East Lagoon
METHOD : Split-Spoon, Driven
FIELD REP: T. Marks
WATER DEPTH: 0.7 ft.

LOCATION ID: K
DATE STARTED: 12 Mar., 1987
DATE COMPLETE: 12 Mar., 1987
BACKGROUND OVA: Set to 1.0 unit

DEPTH (FT)	DESCRIPTION
0 - 1.5	Lt. brown and opaque white bladed crystals, hard, w/trace silt. OVA: 50-60 units. Sample: K-IH-SS, 3 jars collected, 0.1 - 1.1 ft.
1.5 - 2.3	Brown - opaque white, tar-stained crystals, mixed with runny tar. OVA: 30 units. Sample: K-2-SS, 1.7 - 2.2 ft.
2.3 - 3.2	Black tar mixed w/coarse granular debris, brick and wood fragments. OVA: 2-4 units. Sample: K-3-SS, 2.4 - 3.1 ft.
3.2 - 6.3	Black tar, loose, trace debris. OVA: 2-4 units. Sample: K-4-SS, 4.6-5.6 ft.
6.3 - 6.7	Dark brown silt and peat, trace sand, w/abundant roots (MEADOW MAT). OVA: 2-4 units.

TOTAL DEPTH: 6.7 ft.

NOTE: See text for location of boring.

WESTON

BORING LOG

SITE ID: East Lagoon
METHOD : Split-Spoon, Driven
FIELD REP: T. Marks
WATER DEPTH: 0.5 ft.

LOCATION ID: L
DATE STARTED: 11 Mar., 1987
DATE COMPLETE: 11 Mar., 1987
BACKGROUND OVA: Set to 1.0 unit

DEPTH (FT)	DESCRIPTION
0 - 2.1	Brown - opaque white, bladed crystals, hard, trace to some silt. OVA: 10-15 units. Smaple: L-IH-SS, 3 jars collected, 0.2-1.2 ft.
2.1 - 3.8	Black- dark brown consolidated tar. Spoon refusal at 3.8 ft. OVA: 2-3 units. Samples: L-2-SS, 2.2 - 2.9 ft.; L-3-SS, 3.1 - 3.8 ft.
	TOTAL DEPTH: 3.8 ft.

NOTE: See text for location of boring.
Spoon refusal at 3.8 ft. No sample L-4-SS was collected.
Refusal noted after 50 minutes driving w/less than 0.2 ft. advancement.

WESTON

BORING LOG

SITE ID: East Lagoon	LOCATION ID: M
METHOD : Split-Spoon, Driven	DATE STARTED: 12 Mar., 1987
FIELD REP: T. Marks	DATE COMPLETE: 12 Mar., 1987
WATER DEPTH: 0.8 ft.	BACKGROUND OVA: Set to 1.0 unit

DEPTH (FT)	DESCRIPTION
0 - 0.9	Med. brown bladed crystals, some brown silt, soft. OVA: 20 units. Sample: M-1-SS, 0 - 0.8 ft.
0.9 - 1.8	Med. brown and black crystals, some brown silt, trace tar as stain. OVA: 15-17 units.
1.8 - 2.6	Black tar mixed with bladed crystals. OVA: 10 units. Sample: M-2-SS, 1.8 - 2.4 ft.
2.6 - 4.8	Black tar, soft to runny, trace to some debris, predominantly wood fragments. OVA: 3-7 units. Samples: M-3-SS, 3.0 - 3.7 ft; M-4-SS, 4.2 - 4.8 ft.
4.8 - 5.7	Dark brown peat and silt, soft, trace sand (f.), abundant roots (MEADOW MAT). OVA: 2 - 4 units.
	TOTAL DEPTH: 5.7 ft.

NOTE: See text for location of boring.

WESTON

BORING LOG

SITE ID: East Lagoon
METHOD : Split-Spoon, Driven
FIELD REP: T. Marks
WATER DEPTH: 1.5 Ft.

LOCATION ID: N
DATE STARTED: 12 Mar., 1987
DATE COMPLETE: 12 Mar., 1987
BACKGROUND OVA: Set to 1.0 unit

DEPTH (FT)	DESCRIPTION
0 - 0.8	Dark brown silt, tar stained, w/granular fill having coatings of tar. OVA: 20-23 units. Sample: N-1-SS, 0 - 0.8 ft.
0.8 - 1.6	Dark brown-black, opaque white, bladed crystals, hard; tar stains throughout. OVA: 20 units.
1.6 - 2.0	Black tar, hard. OVA: 10-13 units. Sample: N-2-SS, 1.7 - 2.0 ft.
2.0 - 4.7	Black tar, soft to runny, some fill material. OVA: 3-12 units. Samples: N-3-SS, 2.9 - 3.4 ft; N-4-SS, 4.0 - 4.6 ft.
4.7 - 5.3	Dark brown silt and peat, abundant roots (MEADOW MAT). OVA: 2-4 units.
	TOTAL DEPTH: 5.3 ft.

NOTE: See text for location of boring.

WESTON

BORING LOG

SITE ID: East Lagoon
METHOD : Split-Spoon, Driven
FIELD REP: T. Marks
WATER DEPTH: 0.8 ft.

LOCATION ID: 0
DATE STARTED: 13 Mar., 1987
DATE COMPLETE: 13 Mar., 1987
BACKGROUND OVA: Set to 1.0 unit

DEPTH (FT)	DESCRIPTION
0 - 1.2	Gray silt, loose, w/some bladed crystals (white). OVA: 2 - 5 units. Samples: 0-1-SS, 0-1.0 ft; 0-FP-SS*, 0 - 1.0 ft.
1.2 - 2.4	Dark brown-black, bladed crystals, hard; trace silt, trace tar. OVA: 7-12 units. Sample: 0-2-SS, 1.6 - 2.3 ft.
2.4 - 5.4	Black tar, soft; trace wood fragments, trace silt. OVA: 2 - 4 units. Samples 0-3-SS, 3.0 - 3.9 ft; 0-4-SS, 4.8 - 5.3 ft.
5.4 - 6.0	Dark brown silt and peat, abundant roots (MEADOW MAT) OVA: 2 - 4 units.
	TOTAL DEPTH: 6.0 ft.

NOTES: See text for location of boring.

*Sample 0-FP-SS, field performance sample collected under direction of DEP personnel. Assume conc. 2,3,7,8-TCDD=zero, spike at 1ppb.

WESTON

BORING LOG

SITE ID: East Lagoon
METHOD : Split-Spoon, Driven
FIELD REP: T. Marks
WATER DEPTH: 1.0 ft.

LOCATION ID: P
DATE STARTED: 13 Mar., 1987
DATE COMPLETE: 13 Mar., 1987
BACKGROUND OVA: Set of 1.0 unit

DEPTH (FT)	DESCRIPTION
0 - 0.9	Tan, black, opaque, bladed crystals, interlocking, hard. OVA: to 20 units. Sample: P-1-SS, 0-0.8 ft.
0.9 - 1.3	Gray sand (f-m) w/some bladed crystals. OVA: 15 units.
1.3 - 1.8	Black tar, hard. OVA: 2 - 7 units. Sample: P-2-SS, 1.3 - 1.8 ft.
1.8 - 4.9	Black tar, soft, w/some granular material, trace wood fragments. OVA: 2 - 5 units. Samples: P-3-SS, 2.7 - 3.4 ft.; P-4-SS, 4.0 - 4.8 ft.
4.9 - 5.3	Dark brown peat and silt, w/abundant roots, trace sand (f), (MEADOW MAT). OVA: 2 - 3 units.
	TOTAL DEPTH: 5.3 ft.

NOTE: See text for location of boring.

Sheet 1 of 1

BORING LOG

SITE ID: East Lagoon
METHOD : Split-Spoon, Driven
FIELD REP: T. Marks
WATER DEPTH: 0.4 ft.

LOCATION ID: Q
DATE STARTED: 11 Mar., 1987
DATE COMPLETE: 11 Mar., 1987
BACKGROUND OVA: Set of 1.0

DEPTH (FT)	DESCRIPTION
0 - 2.2	Medium brown, opaque, bladed crystals, trace to some brown silt. OVA: to 25 units. Samples: Q-1-SS, 0.3 - 0.8 ft; Q-1D-SS, 0.3 - 0.8 ft.
2.2 - 2.6	Medium-dark brown, opaque crystals mixed w/black tar. OVA: 6-11 units. Samples: Q-2-SS, 2.2 - 2.6 ft; Q-2D-SS, 2.2 - 2.6 ft.
2.6 - 3.1	Dark brown - black tar and sand (f.). OVA: 2 - 6 units. Samples: Q-3-SS, 2.7 - 3.1 ft; Q-3D-SS, 2.7 - 3.1 ft.
3.1 - 5.3	Black tar, soft, w/some brown silt. OVA: 2 - 4 units. Samples: Q-4-SS, 4.0- 5.0 ft; Q-4D-SS, 4.0-5.0 ft.
5.3 - 6.5	Dark brown silt, w/abundant peat, some root fragments (MEADOW MAT). OVA: 2 - 4 units.
	TOTAL DEPTH: 6.5 ft.

NOTE: See text for location of boring.

WESTON

BORING LOG

SITE ID: East Lagoon
METHOD : Split-Spoon, Driven
FIELD REP: T. Marks
WATER DEPTH: 0.6 ft.

LOCATION ID: R
DATE STARTED: 17 Mar., 1987
DATE COMPLETE: 17 Mar., 1987
BACKGROUND OVA: Set to 1.0 unit

DEPTH (FT)	DESCRIPTION
0 - 0.9	Medium-dark brown opaque, bladed crystals. OVA: to 25 units. Sample: R-1-SS, 0-0.8 ft.
0.9 - 3.2	Medium - dark brown, black tar stained, bladed crystals, w/zones of clean, opaque white crystals, tar content increases w/depth. OVA: to 40 units. Sample: R-2-SS, 2.5-3.2 ft.
3.2 - 6.7	Black tar, soft, w/wood and brick fragments, other debris. OVA: 6 - 10 units. Samples: R-3-SS, 4.2 - 5.0 ft. R-4-SS, 6.0 - 6.7 ft.
6.7 - 7.2	Medium - dark brown silt w/peat, root fragments. (MEADOW MAT). OVA: 2 - 4 units.
	TOTAL DEPTH: 7.2 ft.

NOTE: See text for location of boring.

BORING LOG

SITE ID: East Lagoon
METHOD : Split-Spoon, Driven
FIELD REP: T. Marks
WATER DEPTH: 0.3 ft.

LOCATION ID: S
DATE STARTED: 16 Mar., 1987
DATE COMPLETE: 17 Mar., 1987
BACKGROUND OVA: Set to 1.0 unit

DEPTH (FT)	DESCRIPTION
0 - 2.6	Black, brown bladed crystals, trace silt. OVA: to 25 units. Samples : S-1-SS, 0.3 - 0.8 ft; S-2-SS, 1.8 - 2.6 ft.
2.6 - 4.2	Black tar, trace sand (f), very hard. OVA: slowly increased to 12 units. Sample: S-3-SS, 3.5 - 4.2 ft.
	TOTAL DEPTH: 4.2 ft.

NOTES: See text for location of boring.

Spoon refusal at 4.2 ft. No sample S-4-SS was collected. Refusal noted after 45 minutes driving w/no advancement.

WESTON

BORING LOG

SITE ID:	East Lagoon	LOCATION ID:	T
METHOD :	Split-Spoon Driven	DATE STARTED:	13 Mar., 1987
FIELD REP:	T. Marks	DATE COMPLETE:	13 Mar., 1987
WATER DEPTH:	0.9 ft.	BACKGROUND OVA:	Set to 1.0 unit

DEPTH (FT)	DESCRIPTION
0 - 1.5	Medium gray to black, bladed crystals, trace sand (f-m). OVA: to 20 units. Sample T-1-SS, p.5 - 1.5 ft.
1.5 - 3.2	Black tar, some sand (f), very hard. OVA: slowly increased to 10 units. Sample: T-2-SS, 2.5 - 3.2 ft.
	TOTAL DEPTH: 3.2 ft.

NOTES: See text for location of boring.

Spoon refusal at 3.2 ft. No samples T-3-SS or T-4-SS were collected. Refusal noted after 70 minutes driving w/no advancement.

WESTON

BORING LOG

SITE ID: West Lagoon Perimeter
METHOD: Split-Spoon, driven
FIELD REP: Dave Stein
WATER DEPTH: N/A

LOCATION ID: LP-1
DATE STARTED: 8 Aug., 1985
DATE COMPLETED: 8 Aug., 1985
BACKGROUND HNU: Set to 0.0

DEPTH (FT)	DESCRIPTION
0 - 0.5	Brown gravelly silty sand. Sample: LP-1 (SCLP-7A), 0 - 0.5 ft.
0.5 - 1.5	Same as above.
1.5 - 2.5	Same as above. HNU: 10 ppm. Sample: SCLP-7B, 1.5 - 1.7 ft.
2.5 - 3.0	Black gravel.
3.0 - 4.5	Brown, white and black ash.
4.5 - 6.5	Same as 3.0 - 4.5. HNU: 2 - 5 ppm.
6.5 - 8.5	No recovery.
8.5 - 10.5	MEADOW MAT. Sample: 9.0 - 9.5.
	TOTAL DEPTH: 10.5 ft.

NOTES: Samples SCLP-7A, SCLP-7B submitted for TCDD analysis, Aug., 1985.
Ground water encountered at approx. 3.0 ft.

WESTON

BORING LOG

SITE ID: East Lagoon Perimeter
METHOD: Split-Spoon, driven
FIELD REP: Dave Stein
WATER DEPTH: N/A

LOCATION ID: LP-2
DATE STARTED: 8 Aug., 1985
DATE COMPLETED: 8 Aug., 1985
BACKGROUND HNU: Set to 0.0

DEPTH (FT)	DESCRIPTION
0.0 - 0.5	Gravelly silt grading into a dark brown-black slag with silt. Sample: SCLP-2A, 0.0 - 0.5 ft.
0.5 - 2.4	Dark brown-black to gray cinders and silt (fill). HNU: 1 - 2 ppm.
4.1 - 4.5	Brown silty sand (fill). HNU: 1 - 2 ppm.
4.5 - 6.5	Fill consisting of brick and silt. HNU: 2 ppm.
6.5 - 7.5	Dark brown clayey silt.
7.5 - 8.5	MEADOW MAT. Sample: 7.5 - 8.0 ft.
8.5 - 10.0	No recovery.
	TOTAL DEPTH: 10.0 ft.

NOTES: Sample SCLP-2A submitted for TCDD anaylsis, Aug., 1985.
Ground water encountered at approx. 1.0 ft.

BORING LOG

SITE ID: East Lagoon Perimeter
METHOD: Split-Spoon, driven
FIELD REP: Dave Stein
WATER DEPTH: N/A

LOCATION ID: LP-3
DATE STARTED: 9 Aug., 1985
DATE COMPLETED: 9 Aug., 1985
BACKGROUND HNU: Set to 0.0

DEPTH (FT)	DESCRIPTION
0.0 - 0.5	Brown gravelly silty sand with chromite slag. HNU: 1 ppm. Sample: SCLP-3A, 0.0 - 0.5 ft.
0.5 - 2.0	Same as above, very friable and crumbly.
2.0 - 3.0	Same as above.
3.0 - 4.0	Black-gray coal-like material. HNU: 20 ppm.
4.0 - 6.0	Brown coal-like material with lenses of brick, ash, gravel and silt. HNU: 20 - 25 ppm. Sample: SCLP-3C, 3.5 - 4.0 ft.
6.0 - 7.7	Brown, gravelly silty sand and fill material. HNU: 2 - 3 ppm.
7.7 - 8.0	MEADOW MAT. Sample: 7.7 - 8.0 ft.
	TOTAL DEPTH: 8.0 ft.

NOTES: Samples SCLP-3A SCLP-3C submitted for TCDD analysis Aug., 1985.
Ground water encountered at approx. 4.5 ft.

WESTON

BORING LOG

SITE ID: East Lagoon Perimeter
METHOD: Split-Spoon, driven
FIELD REP: Dave Stein
WATER DEPTH: N/A

LOCATION ID: LP-4
DATE STARTED: 9 Aug., 1985
DATE COMPLETED: 9 Aug., 1985
BACKGROUND HNU: 0.0

DEPTH (FT)	DESCRIPTION
0.0 - 0.5	Brown sandy gravel with brick and wood debris. Sample SCLP-4A, 0.0 - 0.5 ft.
0.5 - 2.0	Brown silty sand mixed with black gravel. HNU: 5 - 7 ppm.
2.0 - 4.0	Multi-layered, multicolored (lavender to gray)ash.
4.0 - 6.0	Same as above.
6.0 - 8.0	Same as above. Sample: LP-4, 6.0 - 6.5 ft.
8.0 - 9.0	Green fine ash.
9.0 - 10.0	MEADOW MAT.
	TOTAL DEPTH: 10.0 ft.

NOTES: Samples SCLP-4A, LP-4 submitted for TCDD analysis Aug., 1985.

Ground water encountered at approx. 7.0 ft.

WESTON

BORING LOG

SITE ID: Western Lagoon Perimeter
METHOD: Split-Spoon, driven
FIELD REP: Dave Stein
WATER DEPTH: N/A

LOCATION ID: LP-5
DATE STARTED: 9 Aug., 1985
DATE COMPLETED: 9 Aug., 1985
BACKGROUND : 0.0

DEPTH (FT)	DESCRIPTION
0.0 - 0.5	Sandy gravel with chromite slag. Sample: SCLP-5A, 0.0 - 0.5 ft.
0.5 - 2.0	Same as above, very friable.
2.0 - 4.0	Dark brown to light orange silty sand with gray ash near 4.0 ft. HNU: 0.5 - 4 ppm.
4.0 - 6.0	Same as above. Sample: SCLP-5D, 3.6 - 4.1 ft.
6.0 - 10.5	Gray ash material. Sample: 10.0 - 10.5ft.
10.5 - 11.0	MEADOW MAT.
	TOTAL DEPTH: 11.0 ft.

NOTES: Samples SCLP-5A, SCLP-5D submitted for TCDD analysis Aug., 1985.

Ground water encountered at approx. 4.6 ft.

WESTON

BORING LOG

SITE ID:	Western Lagoon Perimeter	LOCATION ID:	LP-6
METHOD:	Split-Spoon, driven	DATE STARTED:	10 Aug., 1985
FIELD REP:	Dave Stein	DATE COMPLETED:	10 Aug., 1985
WATER DEPTH:	N/A	BACKGROUND HNU:	0.0

DEPTH (FT)	DESCRIPTION
0.0 - 0.5	Brown sandy, silty gravel with chromite slag. Sample: SCLP-6A, 0.0 - 0.5 ft.
0.5 - 2.0	Brown silty gravel, chromite slag, very friable. Sample: SCLP-6B, 1.8 - 2.2 ft.
2.0 - 4.0	Red, fine silty clay, fairly messive.
4.0 - 6.0	Brown, wet silty, clayey gravel grading into a black coal ash.
6.0 - 9.5	Same as above with red brick fragments, sandier with some silt.
	Sample: 8.9 - 9.5 ft.
9.5 - 10.0	MEADOW MAT.
	TOTAL DEPTH: 10.0 ft.

NOTES: Samples SCLP-6A, SCLP-6B submitted for TCDD analysis Aug., 1985.
Ground water encountered at approx. 2.7 ft.

WESTON

BORING LOG

SITE ID: Midway between East & West Lagoons
METHOD: Split-Spoon, driven
FIELD REP: Dave Stein
WATER DEPTH: N/A

LOCATION ID: LP-7
DATE STARTED: 10 Aug., 1985
DATE COMPLETED: 10 Aug., 1985
BACKGROUND HNU: 0.0

DEPTH (FT)	DESCRIPTION
0.0 - 0.5	Black, metallic-looking material. Sample: SCLP-7A, 0.0 - 0.5 ft.
0.5 - 1.6	Black, tar-like, viscous material.
1.6 - 4.0	Brown, silty sandy gravel with specks of white crystalline material. Sample SCLP-7B, 1.7 - 2.1 ft.
4.0 - 5.5	Brown silty sandy gravel, wet. HNU: 3 - 5 ppm.
5.5 - 8.0	Black organic layer. HNU: 7 - 10 ppm.
8.0 - 9.0	Brown sandy gravel with black ooze near 8.5 ft. HNU: 20 - 25 ppm. Sample: 8.5 - 9.0 ft. - HNU: 10 - 15 ppm.
9.0 - 9.5	MEADOW MAT.
	TOTAL DEPTH: 9.5 ft.

NOTES: Samples SCLP-7A, SCLP-7B submitted for TCDD analysis, Aug., 1985.
Ground water encountered at approx. 2.6 ft.

ROY F. WESTON, INC.
REMEDIAL INVESTIGATION
(1991-1992)

BORING LOG

Project STANDARD CHLORINE

Location KEARNY, NJ

Geologist W. Brew

Drilling Contractor J.C. Anderson

Driller J. Burrell

Drilling Method Hollow stem auger

Diameter of Borehole 6 inches

Boring Number SB-1

Total Borehole Depth 4 feet

Date Started 10/7/92

Date Boring Completed 10/7/92

DEPTH IN FEET	LAB SAMPLE	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READINGS	DESCRIPTION
0							0-1' Augered.
1		X	13-15	60			1-2' Black bituminus fill material. 2-2.8' Red brick, broken
2			15-18				
3		X	50/1'	0			3-4' No recovery.
4							
6							
8							
10							
12							

BORING LOG

Project	STANDARD CHLORINE	Boring Number	SB-2
Location	KEARNY, NJ	Total Borehole Depth	17 feet
Geologist	W. Brew	Date Started	10/7/92
Drilling Contractor	J.C. Anderson	Date Boring Completed	10/7/92
Driller	J. Burrell		
Drilling Method	Hollow stem auger		
Diameter of Borehole	6 inches		

DEPTH IN FEET	LAB SAMPLE	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READINGS	DESCRIPTION
0							0-1' Augered.
			5-10	70			1-2.4' Black bituminus type fill, silty, pieces of brick damp.
2			15-16				
			11-13	50			3-4' Same as above with wood, wet at 4.8'
4			15-11				
			4-5	35			5-6.7' Same as above. 6.7' Green gray f to m SAND, trace f gravel
6			8-4				
			1-1	40			8.3' Marsh mat, brown peat, moist.
8			1-1				
			1-2	25			9' Same as above.
10			1-1				
			4-4	80			11-12.6' Green gray f sand w/silt, wet. 12.6-12.8' Green gray CLAY
12							

BORING LOG

PROJECT STANDARD CHLORINE BORING NUMBER SB-2

DEPTH IN FEET	LAB SAMPLE	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READINGS	DESCRIPTION
12		X	5-7	80			
		X	2-2	30			Same as 11-12.6' above.
14			5-9				
		X	2-4	100			15-16.2' Same as above, more m SAND, product. 16.2' Green gray CLAY
16			4-5				
18							
20							
22							
24							
26							
28							

BORING LOG

- Project: STANDARD CHLORINE
- Location: KEARNY, NJ
- Geologist: W. Brew
- Drilling Contractor: J.C. Anderson
- Driller: J. Burrell
- Drilling Method: Hollow stem auger
- Diameter of Borehole: 6 inches
- Boring Number: SB-3
- Total Borehole Depth: 17 feet
- Date Started: 10/6/92
- Date Boring Completed: 10/6/92

DEPTH IN FEET	LAB SAMPLE	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READINGS	DESCRIPTION
0							0-1' 0-8" asphalt 8-10" membrane 10" coarse gravel
1–3 (2)		X	3-4 5-7	15			Black-red fill, silt w/ clay and gravel, wet.
3–5 (4)		X	5-6 7-6	50			Dark red c sand, fill, wet, with silt, cobble at end of spoon.
5–7 (6)		X	6-8 13-13				Same as above to 6.8'. 6.8' Same color change to black, stained.
7–9 (8)		X	15-5 1-2	20			Marsh mat at 8.8' peaty, moist.
9–11 (10)		X	1-2 4-5	45			10.6' Green gray f SAND, end of spoon green gray CLAY.
11–12 (12)		X	3-6	0			No recovery.

BORING LOG

PROJECT STANDARD CHLORINE BORING NUMBER SB-3

DEPTH IN FEET	LAB SAMPLE	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READINGS	DESCRIPTION
12				0			Black red CLAY at 14.5'.
14			4-5 7-6	60			
16			5-7 10-9	100			Green gray f grained SAND with silt to 16.9' Green gray CLAY at 17'.
18							
20							
22							
24							
26							
28							

BORING LOG

Project STANDARD CHLORINE

Location KEARNY, NJ

Geologist W. Brew

Drilling Contractor J.C. Anderson

Driller J. Burrell

Drilling Method Hollow stem auger

Diameter of Borehole 6 inches

Boring Number SB-4

Total Borehole Depth 17 feet

Date Started 10/6/92

Date Boring Completed 10/6/92

DEPTH IN FEET	LAB SAMPLE	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READINGS	DESCRIPTION
0							Augered
1–3			8-10, 12-7	60			Brown f to m SAND w/trace silt, stained black, wet. 2" layer of silty clay (2.6-2.8')
3–5			2-6, 6-6	20			Fill, gray green c SAND and silt w/trace f gravel, damp.
5–7			2-1, 1-1	30			Same as above to 6.7'. 6.7' Marsh mat, peat, damp.
7–9			1-1, 1-1	0			No recovery.
9–11			1-2, 2-4	45			10.2' Black gray f SAND and silt, saturated.
11–12			4-9	100			Same as above to 11.3' 11.3-12.3' Black green silty CLAY, damp. 12.3 Brown f SAND w/some m SAND and trace silt, saturated.

BORING LOG

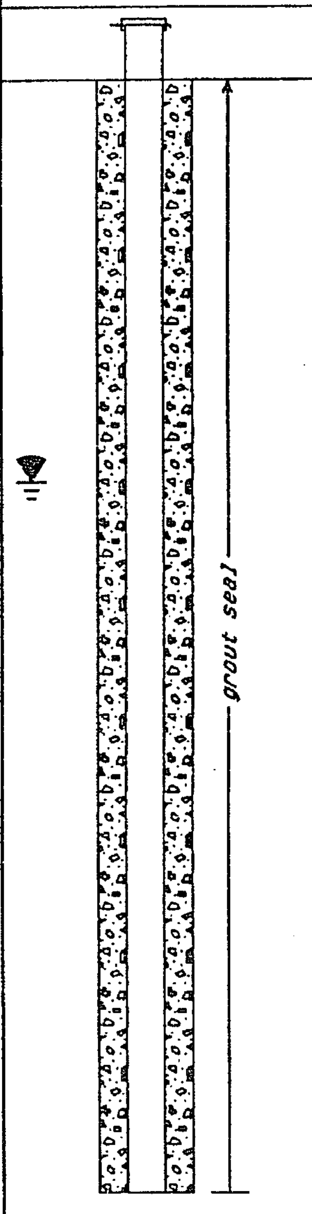
PROJECT STANDARD CHLORINE BORING NUMBER SB-4

DEPTH IN FEET	LAB SAMPLE	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READINGS	DESCRIPTION
12		X	16-13	100			Same as 12.3' above.
14		X	6-5 8-10	100			
16		X	5-6 7-5	80			Same as above to 15.3'. 15.3' Brown gray CLAY with silt, wet.
18							
20							
22							
24							
26							
28							

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-1L
Location	KEARNY, NJ	Coordinates	E602518.73, N698067.65
Geologist	Celia Greenman	Top of Casing Elevation	8.54 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	6.18 feet
Driller	Jon Urban	Total Borehole Depth	21 feet
Drilling Method	Hollow stem auger	Total Well Depth	21 feet
Diameter of Borehole	12 inches	Date Started	11/30/90
Diameter of Well Casing	4 inches	Date Well Completed	11/30/90

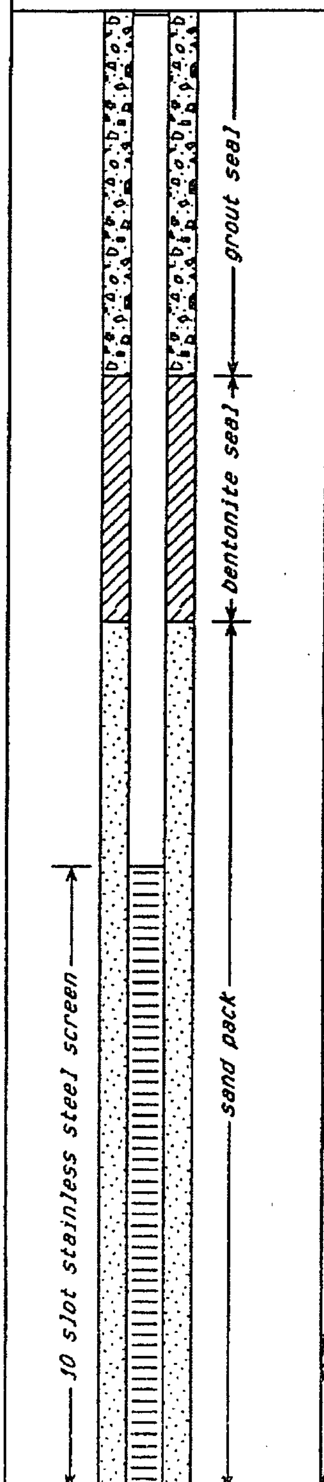
WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0			71			0-2' 0-.3' silt (5YR3/4) dry, soft. .3-.6' Black asphalt type material, sand size with gravel chunks. .6-1.5' silty sand (5R3/4) fine grained, mottled, dry, some black mottling.
2			100			2-4' Water at 3.5' Sand, (5YR3/2) brown-gray, fine to medium, some pebbles.
4			50			4-6' Sand and gravel, brown-gray, green pockets of chrome fill.
6			50			6-8' Same - green coated sandy grains.
8			50			8-10' Same.

OVERBURDEN WELL

PROJECT: STANDARD CHLORINE   WELL NUMBER: MW-1L

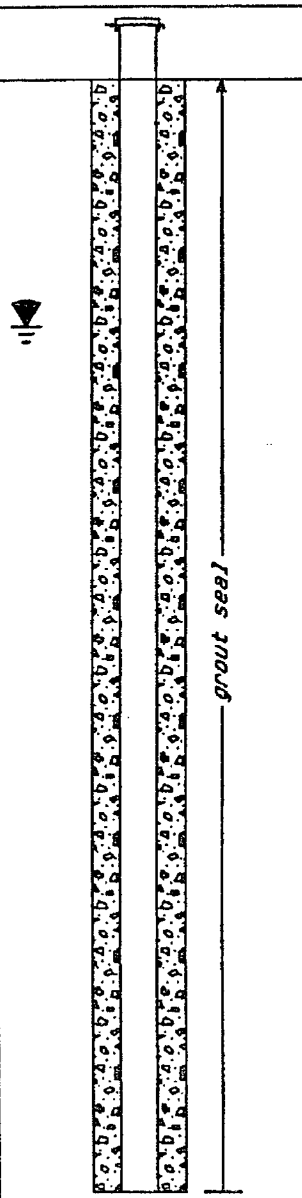


DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
9–10			50		
10–12			100		10-12' 10-10.3' caving, silt, grass roots. 10.3-10.5' black sand. 10.5-12' marsh mat, organic layer, sulfur smell.
12–14			88		12-14' 12-13.2' meadow mat. 13.2-13.75' fine grained sand, (10YR4/2) brown-gray, 20-30% clay, fairly plastic.
14–16			100		14-16' 14-14.5' caving. 14.5-16' sand, (5YR2/2) dark brown-gray 14.5-15' clayey sand, 20% clay. 15-16' grades to medium to coarse sand, well sorted, subrounded grains.
16–18			100		16-18' Sand as above, at 16.7-17' thick lense clayey sand.
18–20			100		18-20' Beach sand as above; bottom 6" gray clay, dry, stiff, silty.
20–21					20-21' Sand, not representative due to running sands.

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-2L
Location	KEARNY, NJ	Coordinates	E602927.72, N698010.82
Geologist	Celia Greenman	Top of Casing Elevation	7.36 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	4.45 feet
Driller	Jon Urban	Total Borehole Depth	19 feet
Drilling Method	Hollow stem auger	Total Well Depth	19 feet
Diameter of Borehole	12 inches	Date Started	12/7/90
Diameter of Well Casing	4 inches	Date Well Completed	12/7/90

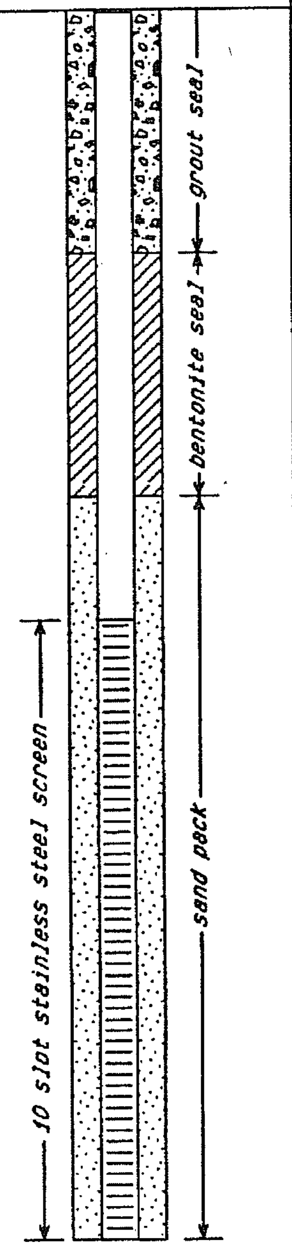
WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
0	X		75	1	0-2' 0-.3' brown red silty CLAY (10YR4/6). .3-.9' black asphalt material; dry. .9-1.4' brown silt (5YR3/4); dry. 1.4-1.5' quartzite pebble.
2	X		65	1	2-4' 2-2.2' quartzite pebble. 2.2-2.8' brown sandy silt, very fine grained sand (5YR5/2); dry. 2.8-3.3' red brown silt (10YR4/6); dry.
4	X		65	1	4-6' 4-4.5' brown red silty clay, similar to above. 4.5-5.3' CLAY, brown (5YR3/4), dry, clasts of black organic material and pebbles, stiff.
6	X		65	1	6-8' brown CLAY as above, dry.
8	X			10	8-10' Meadow mat, wet. Analytical sample HA3563.

OVERBURDEN WELL

PROJECT STANDARD CHLORINE WELL NUMBER MW-2L

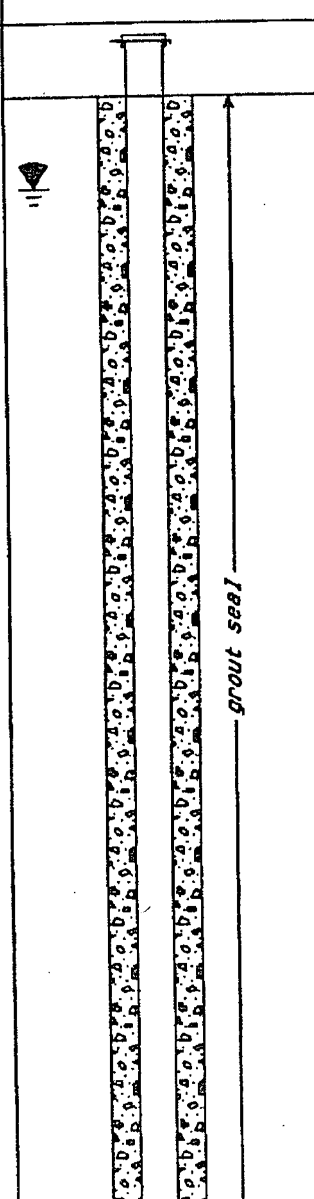


DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING		DESCRIPTION
9				10		
11			100	2	10-12'	10-10.5' silty clay, brown with pebbles, caving. 10.5-11.2' meadow mat. 11.2-11.7' brown clay (5YR2/2), very plastic. 11.7-12' green CLAY (5G6/1), very plastic.
13			65	BKG	12-14'	12-12.25' caving. 12.25-12.8' green CLAY, moist, somewhat stiff (10G6/2). 12.8-13.3' SAND, green (10G6/2), fine to medium grained, 10% clay, moist.
15			100	20-50	14-16'	14-14.5' fine grained SAND, 10% clay, olive, (5Y5/6), well sorted. 14.5-16' SAND, brown gray (5YR4/1), grades from medium at top to coarse grained at bottom, fairly well sorted, subangular grains; moist.
17			100	20-50	16-18'	16-17' sand as above; moist. 17-18' CLAY, gray (N-5), stiff, dry.
19						
21						

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-3L
Location	KEARNY, NJ	Coordinates	E602725.51, N697722.83
Geologist	Celia Greenman	Top of Casing Elevation	5.29 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	3.36 feet
Driller	Jon Urban	Total Borehole Depth	18 feet
Drilling Method	Hollow stem auger	Total Well Depth	18 feet
Diameter of Borehole	12 inches	Date Started	11/30/90
Diameter of Well Casing	4 inches	Date Well Completed	12/3/90

WELL CONSTRUCTION DETAIL



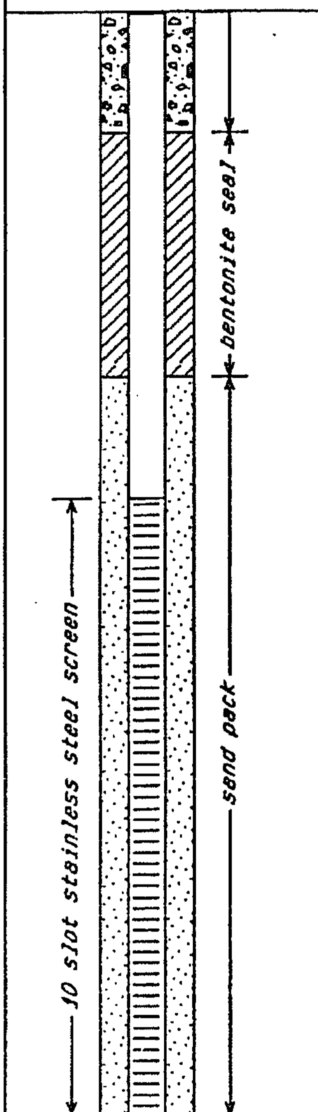
DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0			58			0-2' 0-.3' sandy silt (5YR3/4) brown gray. bottom inch is asphaltic. .3-.7' brick material. Water at 1.8'. .7-1.2' sand with some gravel (10YR2/2) moist, fine to medium sand.
2			75			2-4' Gravel and sand fill, gravel up to 2"diameter, (10YR2/2) brown-gray, some brick material and white crystals.
4			100			4-6' 4-5.25' sand, brown gray, coarse, well sorted, wet. 4.25-5.5' gravel, 2" diameter.
6			75			6-8' 6-7' chrome fill and caving, large chunks gravel and coarse sand (5YR2/2) 7-7.5' meadow mat.
8			50			8-10' 8-8.75' caving - chrome fill as above. 8.75-9' meadow mat.

OVERBURDEN WELL

PROJECT STANDARD CHLORINE

WELL NUMBER MW-3L

WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	DESCRIPTION
9–10	X		50	
10–12	X		33	10-12' 10-10.3' caving, chrome fill. 10.3-10.7' dark greenish gray CLAY, (5GY4/1), plastic.
12–14	X		100	12-14' 12-.2' caving. 12.2-14' sand, green-gray (5GY2/1), medium to coarse, well sorted, top 12" 20-30% clay, 1/2" thick green clay stringer at 2".
14–16	X		100	14-16' 14-15.25' sand, green-gray (5GY2/1), coarse to very coarse, strong moth ball smell. 15.25-16' clay, stiff, green-gray (5GY2/1), strong moth ball smell.

Depth scale: 9, 11, 13, 15, 17, 19, 21

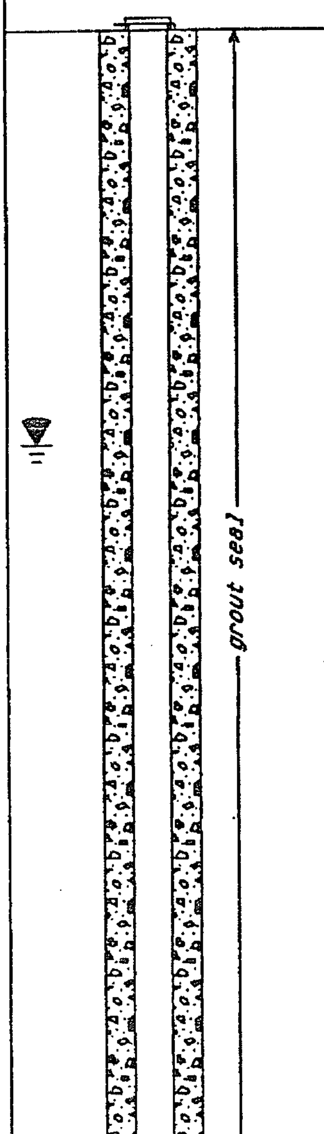
GRAPHIC SYMBOL

HNU/OVA READING

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-4L
Location	KEARNY, NJ	Coordinates	E603527.45, N697967.15
Geologist	Celia Greenman	Top of Casing Elevation	7.28 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	5.19 feet
Driller	Jon Urban	Total Borehole Depth	20 feet
Drilling Method	Hollow stem auger	Total Well Depth	18 feet
Diameter of Borehole	12 inches	Date Started	12/11/90
Diameter of Well Casing	4 inches	Date Well Completed	12/11/90

WELL CONSTRUCTION DETAIL

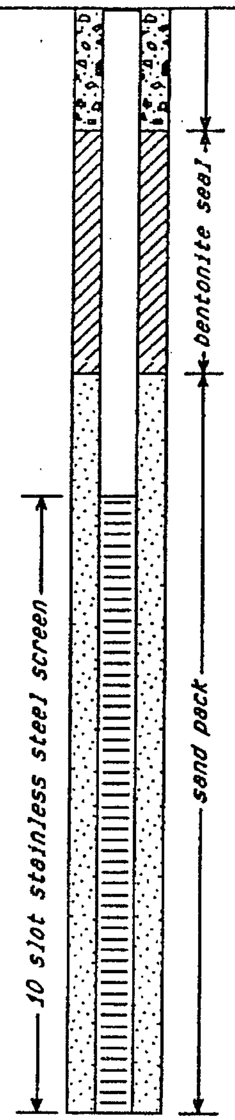


DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0			30		BKG	0-2' Silt, gravel 15%, visible slag pieces, dry, brown (5YR2/2).
2			100		BKG	2-4' 2-3.5' Silt, 10% sand, fine grained, dull green mineral throughout, white creamy pocket at 2.5', wet, gray (5GY6/1). 3.5-4' sand and 15% gravel, fine grained sand, 1/2" gravel, green mineral, wet, gray (5GY6/1).
4			100		BKG	4-6' 4-4.5' silt and gravel, 15% rounded gravel pellets, possibly from surface, specks of creamy coating, wet, gray (5GY6/1). 4.5-6' silt, green mineral throughout, wet, gray (5GY6/1).
6			100		BKG	6-8' Silt as above with green mineral, gray (5GY6/1), wet.
8			100		BKG	8-10' 8-9.8' silt, as above, 5% gravel, green mineral, moist, gray (5GY6/1). 9.8-10' meadow mat.

OVERBURDEN WELL

PROJECT STANDARD CHLORINE

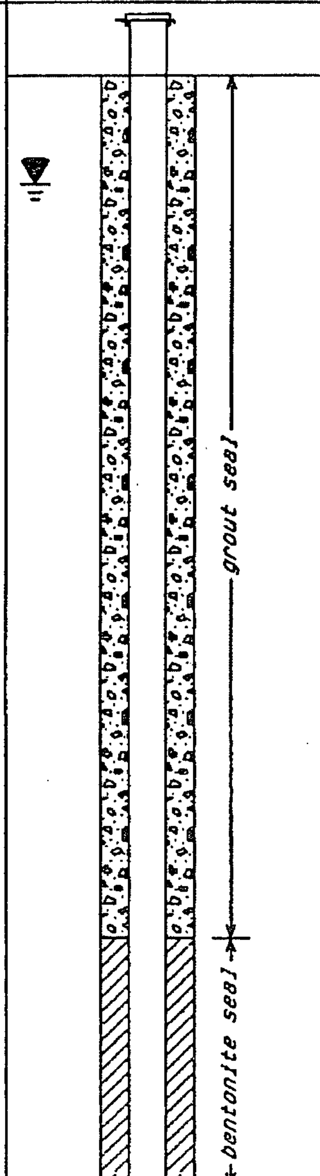
WELL NUMBER MW-4L



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
9			100	BKG	
10-12'			50	BKG	10-10.5' caving, gray silt with green mineral, wet. 10.5-10.7' meadow mat. 10.7-11' sand, fine grained, 10% clay, moist, brown (5YR3/2).
12-14'			100	BKG	12-13.3' caving, sand and gravel fill and meadow mat. 13.3-14' sand, fine grained to very fine grained; green clay (clayey sand) stringer 13.3-13.6', moist, gray (5Y6/1).
14-16'			75	BKG	14-14.4' caving. 14.4-15' sand, fine to medium grained, well sorted mostly quartz, subangular, moist, appears stained gray (N-2). 15-15.5' sand, fine grained, well sorted, quartz, moist, gray (5YR6/1).
16-18'			100	BKG	16-17.3' caving. 17.3-18' sand, fine to medium grained, well sorted, strong odor, moist, gray (5YR6/1).
18-20'			100	BKG	18-18.6' caving. 18.6-20' clay, slightly plastic, fairly stiff, top 2" contains chunks of red shale, moist, gray (N-5).
21					

OVERBURDEN WELL

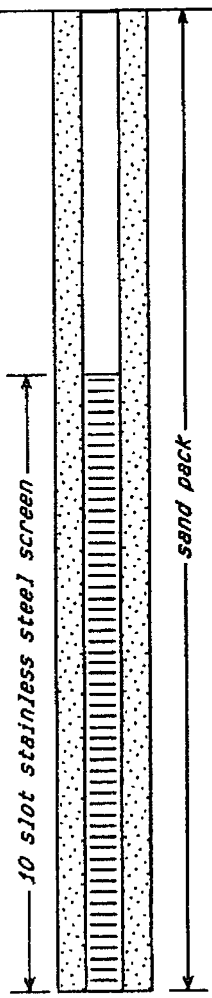
Project	STANDARD CHLORINE	Well Number	MW-5L
Location	KEARNY, NJ	Coordinates	E602923.55, N698260.23
Geologist	Celia Greenman	Top of Casing Elevation	6.14 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	3.71 feet
Driller	Jon Urban	Total Borehole Depth	17 feet
Drilling Method	Hollow stem auger	Total Well Depth	17 feet
Diameter of Borehole	12 inches	Date Started	12/3/90
Diameter of Well Casing	4 inches	Date Well Completed	12/4/90



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
0					0-2' Very resistant, augered through.
2	2-4		63		2-4' 2-2.7' gravel slag fill. 2.7-2.8' black asphalt material. 2.8-3.25' sandy fill with pockets of yellow silt. Water at 3 feet.
4	4-6		100		4-6' 4-4.5' black sandy gravel fill, wet. 4.5-6' sandy clay, green gray (5GY6/1) moist, plastic, 10% sand, green is mottled.
6	6-8		33		6-8' Some sandy gravel fill and wood chunks. Possible beginning of mat.
8	8-10		0		8-10' No recovery, chunk of wood stuck.

OVERBURDEN WELL

PROJECT STANDARD CHLORINE WELL NUMBER MW-5L

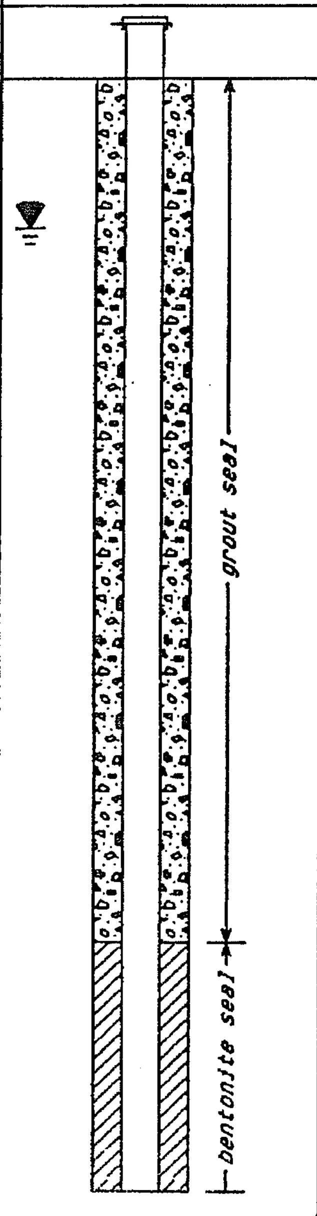


DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	DESCRIPTION
9			0	
			63	10-12' 10-10.1' meadow mat. 10.1-10.3' clay. 10.3-11.25' clayey sand, fine to medium grain, brown gray (5YR4/1) 20-30% sand, black staining on sand.
11				
			50	12-14' Sand as above, 10% clay.
13				
			42	14-16' 14-14.5' coarse sand, no clay, brown-gray (5YR4/1). 14.5-14.8' clay, gray.
15				
				16-17' Clay.
17				
19				
21				

OVERBURDEN WELL

Project: STANDARD CHLORINE	Well Number: MW-6L
Location: KEARNY, NJ	Coordinates: E603531.37, N698540.14
Geologist: Celia Greenman	Top of Casing Elevation: 6.82 feet
Drilling Contractor: J.C. Anderson	Groundsurface Elevation: 4.19 feet
Driller: Jon Urban	Total Borehole Depth: 16 feet
Drilling Method: Hollow stem auger	Total Well Depth: 16 feet
Diameter of Borehole: 12 inches	Date Started: 12/5/90
Diameter of Well Casing: 4 inches	Date Well Completed: 12/5/90

WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0–2			75		BKG	0-2' Slag, sand and gravel, gray, black water at .5', (5YR2/1).
2–4			100		BKG	2-4' 2-2.8' slag as above. 2.8-4' sandy clay, 40% sand, fine grained, clay, (5GY7/4), green.
4–6			100		BKG	4-6' 4-4.9' sand and gravel fill. 4.9-5.1' sandy clay as above. 5.1-6' gravel and sand fill, black
6–8			33		BKG	6-8' Gravel and sand fill as above, meadow mat in tip of spoon.
8–10			100		BKG	8-10' 8-8.3' gravel and sand, slag, caving. 8.3-8.9' meadow mat, stained black. 8.9-9.3' silty clay, wet, plastic, (5Y4/1), gray.

(Page 2 of 2)

OVERBURDEN WELL

PROJECT STANDARD CHLORINE WELL NUMBER MW-6L

DEPTH IN FEET	WELL CONSTRUCTION DETAIL	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
9–10		X		100		BKG	9.3-9.6' clayey sand, gray, (5Y4/1), fine grained sand, 40% clay. 9.6-9.8' silty clay as above 9.8-10' clayey sand, as above.
10–12	sand pack	X		25		BKG	10-12' Fine grained sand, 20% clay, 2" pebble at bottom prevented recovery, sand dark gray (5YR2/1).
12–14	10 slot stainless steel screen	X		100		BKG	12-14' 12-12.4' caving. 12.4-14' dark gray fine to medium grained sand N-4, N-3.
14–16		X		100		20	14-16' 14-14.75' caving. 14.75-15.75' fine grained sand, as above, strong odor. 15.75-16' clay, gray (5YR4/1), stiff, hard.

Depth scale: 9, 11, 13, 15, 17, 19, 21

OVERBURDEN WELL

Project STANDARD CHLORINE

Location KEARNY, NJ

Geologist Celia Greenman

Drilling Contractor J.C. Anderson

Driller Jon Urban

Drilling Method Hollow stem auger

Diameter of Borehole 12 inches

Diameter of Well Casing 4 inches

Well Number MW-7L

Coordinates E603657.55, N698602.08

Top of Casing Elevation 6.90 feet

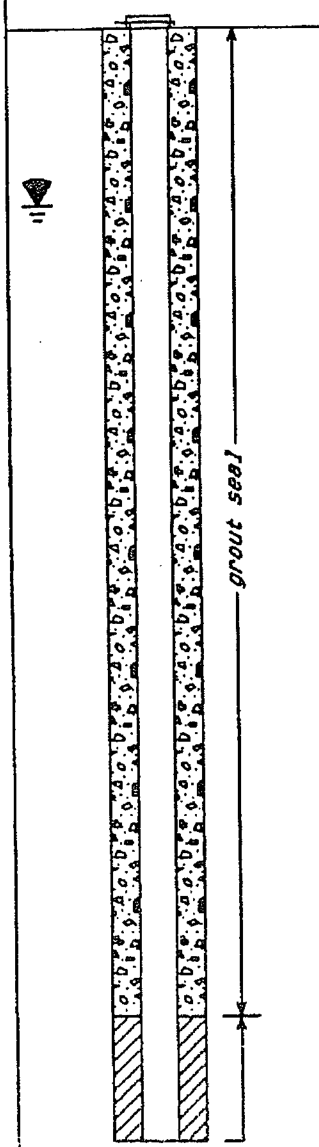
Groundsurface Elevation 4.26 feet

Total Borehole Depth 16 feet

Total Well Depth 16 feet

Date Started 12/11/90

Date Well Completed 12/12/90

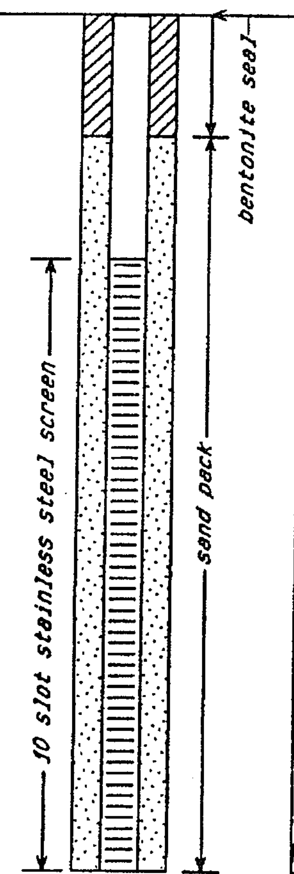


DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION	
0			50	N/A	0-2'	0-.4' silt, moist, brown (5YR3/2). .4-.7' silt and gravel, 40% gravel fill, moist, brown (5YR3/2). .7-1' gravel fill, >1/2" gravel, wet, gray (N-6).
2			20	N/A	2-4'	2-2.4' gravel fill with silt, water very high in hole (within 3"), wet, brown (5YR3/4).
4			50	N/A	4-6'	4-4.3' gravel fill, wet, brown (5YR3/4). 4.3-5' meadow mat, strong odor and wicked looking fluid, gray (N-2).
6			50	80	6-8'	Meadow mat as above, wet.
8			50	80	8-10'	8-8.7' meadow mat as above. 8.7-9' sand, fine grained, well sorted, 15% clay, moist, gray (5G6/1).

OVERBURDEN WELL

PROJECT STANDARD CHLORINE

WELL NUMBER MW-7L



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
9–10			50	80	
10–12			65	60	10-12' 10-10.3' caving, meadow mat. 10.3-11.7' sand, fine grained, well sorted, 10% clay, clay layer and black staining at 10.6-10.7', strong odor, moist, gray (5G6/1).
12–14			100	75	12-14' 12-12.5' caving. 12.5-14' sand, fine grained, well sorted, no clay, strong odor, stained brown in places, moist, gray (N-5).
14–16			100	120	14-16' 14-14.5' caving. 14.5-15.6' sand, fine grained as above, strong odor and staining, moist, gray (5YR4/1). 15.6-16' clay, stiff, moist, gray (N-4).

HNU readings on bottled samples

Depth scale: 9, 11, 13, 15, 17, 19, 21

OVERBURDEN WELL

Project STANDARD CHLORINE

Location KEARNY, NJ

Geologist Celia Greenman

Drilling Contractor J.C. Anderson

Driller Jon Urban

Drilling Method Hollow stem auger

Diameter of Borehole 12 inches

Diameter of Well Casing 4 inches

Well Number MW-8L

Coordinates E603960.19, N698755.40

Top of Casing Elevation 8.58 feet

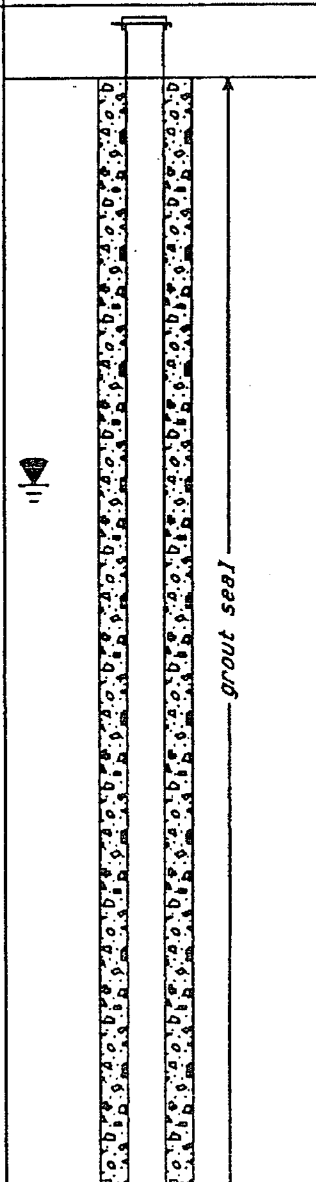
Groundsurface Elevation 5.78 feet

Total Borehole Depth 19 feet

Total Well Depth 19 feet

Date Started 12/5/90

Date Well Completed 12/5/90

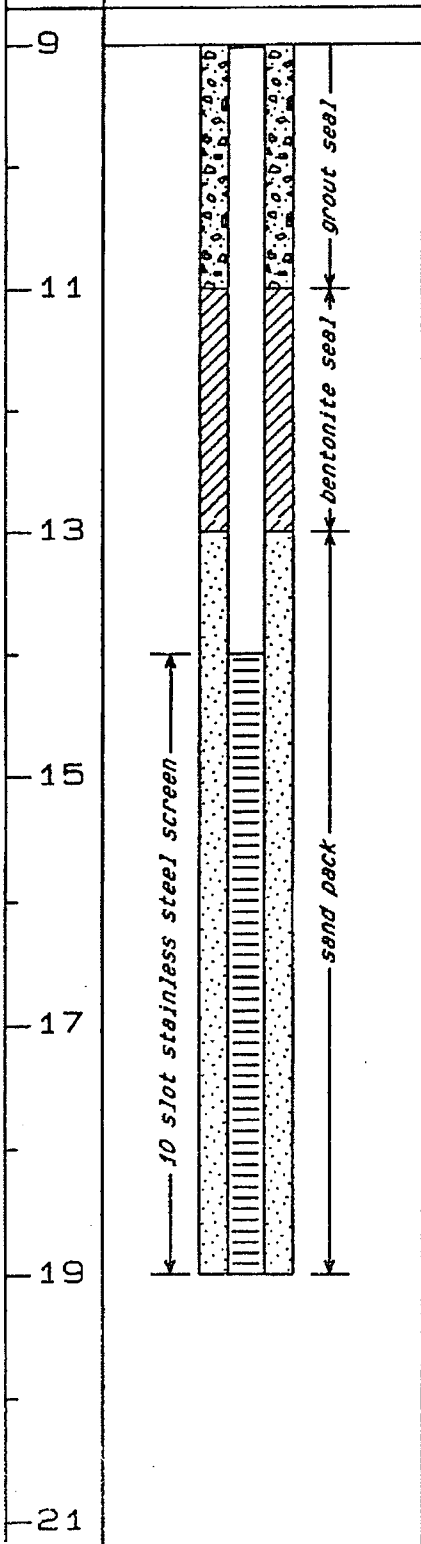


DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
0–2			100	BKG	0-2' 0-.3' sand and gravel fill. .3-1.3' sandy silt, 20% sand, fine grained, brown (5YR3/4). 1.3-1.4' slag with green sand. 1.4-2' sandy silt, 10-20% sand, brown (5YR4/1).
2–4			100	BKG	2-4' 2-4' 40% silt, 30% sand and 30% gravel, brown (5YR4/1) gravel has slag pieces; also pieces of paper, wood, green staining on silt and pebbles, moist.
4–6			100	5	4-6' 4-4.8' fill as above. 4.8-5.3' sand with about 20% gravel (5YR3/2), wet. 5.3-6' clay, gray (N-4), moist, plastic, stained black at 16-18", mothball odor.
6–8			100	BKG	6-8' Meadow mat, top 10" is very degraded to black clayey material.
8–10			48	BKG	8-10' Meadow mat.

OVERBURDEN WELL

PROJECT STANDARD CHLORINE

WELL NUMBER MW-8L

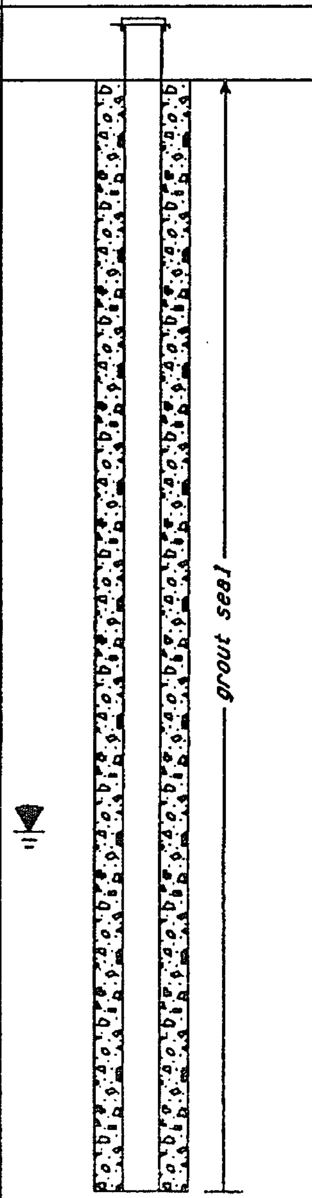


SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
9-10'		48		BKG	
10-12'		100		BKG	10-12' 10-10.8' caving. 10.8-12' meadow mat.
12-14'		100		BKG	12-14' 12-13.1' meadow mat. 13.1-14' very fine grained sand, green gray (5GY4/1), 20-30% clay, moist.
14-16'		100		BKG	14-16' fine and very fine grained sand as above, 20-30% clay, interstitial and lenses.
16-18'		100		100	16-18' 16-16.7' caving 16.7-16.9' fine grained sand as above 16.9-18' clay, gray (N-4), stiff, dry; top 2" HNU = 100.

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-9L
Location	KEARNY, NJ	Coordinates	E604139.06, N698262.42
Geologist	Celia Greenman	Top of Casing Elevation	10.09 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	7.55 feet
Driller	Jon Urban	Total Borehole Depth	21 feet
Drilling Method	Hollow stem auger	Total Well Depth	21 feet
Diameter of Borehole	12 inches	Date Started	12/10/90
Diameter of Well Casing	4 inches	Date Well Completed	12/10/90

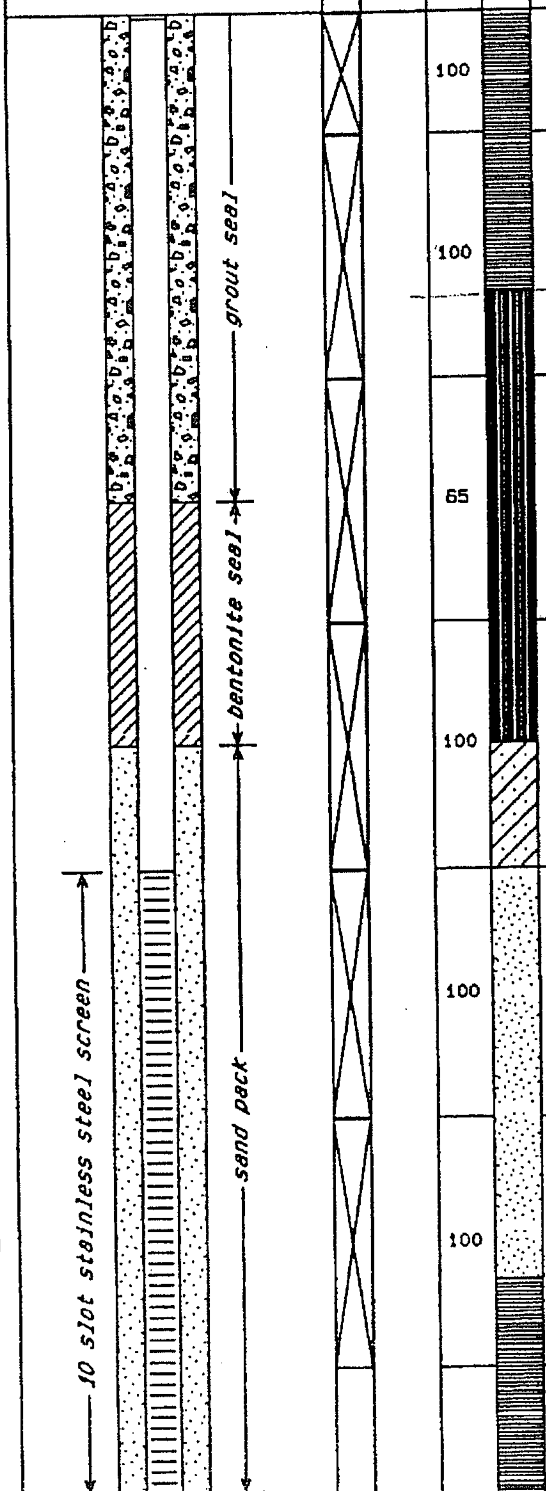
WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
0–2	X		95	BKG	0-2' SILT, sandy, fine grained, pockets of green crystallization, brown (5YR3/2), dry.
2–4	X		95	BKG	2-4' Sand, fine grained, 30% silt, micaceous, pockets of green mineral, brown (5YR3/2), dry.
4–6	X		90	BKG	4-6' Sand, fine grained, 25% clay, pockets of green mineral, moist, brown (5YR3/2).
6–8	X		100	BKG	6-8' Sand and clay, 50/50, fine grained sand, wet, brown (5YR3/2).
8–10	X		100	BKG	8-10' 8-9' sand, clayey, 40% clay, fine grained sand, plastic clay, pocket of yellow green mineral at 8 feet. 9-10' clay, plastic, 30% sand at 9', 15% sand at 10', some clasts of red and black clay, wet, brown (5YR3/2)

OVERBURDEN WELL

PROJECT STANDARD CHLORINE WELL NUMBER MW-9L



DEPTH IN FEET	% RECOVERY	HNU/OVA READING	DESCRIPTION
9	100	BKG	
10-12'	100	3	0-11.3' clay, as above, moist, brown (5YR3/2). 11.3-12' meadow mat, very clayey, moist, brown (5YR3/2).
12-14'	65	BKG	Appears to be mostly caving, clayey sand with meadow mat in nose of spoon, moist, brown (5YR3/2).
14-16'	100	BKG	14-15' sand with clay, may be caving, looks like sand at shallower depths, 20% clay, moist, gray brown (5YR3/2). 15-15.4' clay with sand, 30% fine grained sand, plastic, moist, gray (5Y4/1). 15.4-16' sand, fine grained with 40% plastic clay, moist, gray (5Y4/1).
16-18'	100	BKG	16-16.7' caving, sand, clay, meadow mat, moist, gray brown (5YR3/2). 16.7-18' sand, fine grained, well sorted, no clay, moist; brown gray (5YR6/1) and brown (10YR5/4).
18-20'	100	BKG	18-18.5' caving, gray green clay, dry, gray (5G6/1). 18.5-19.3' sand, fine grained, mixed with some gray brown sand, well sorted, yellow orange (10YR6/6), moist. 19.3-20' clay, stiff, dry, gray (N-4).

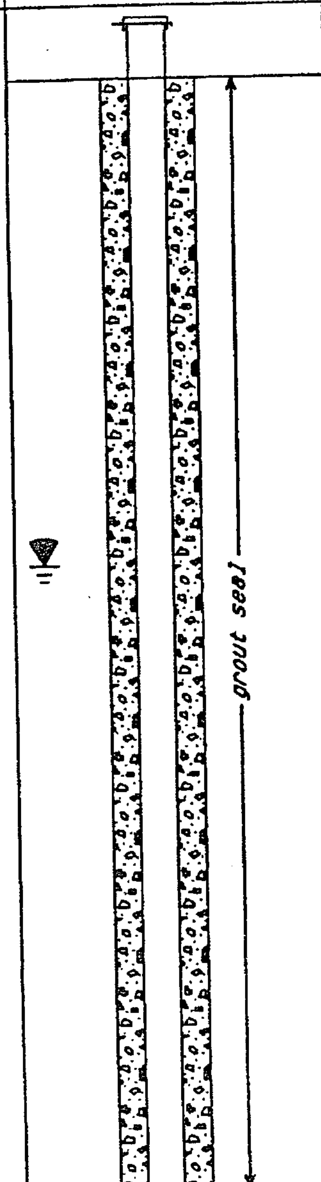
DEPTH IN FEET: 9, 11, 13, 15, 17, 19, 21

OVERBURDEN WELL

Project STANDARD CHLORINE
Location KEARNY, NJ
Geologist Celia Greenman
Drilling Contractor J.C. Anderson
Driller Jon Urban
Drilling Method Hollow stem auger
Diameter of Borehole 12 inches
Diameter of Well Casing 4 inches

Well Number MW-10L
Coordinates E603775.85, N698104.42
Top of Casing Elevation 8.12 feet
Groundsurface Elevation 5.31 feet
Total Borehole Depth 17 feet
Total Well Depth 16 feet
Date Started 12/10/90
Date Well Completed 12/10/90

WELL CONSTRUCTION DETAIL



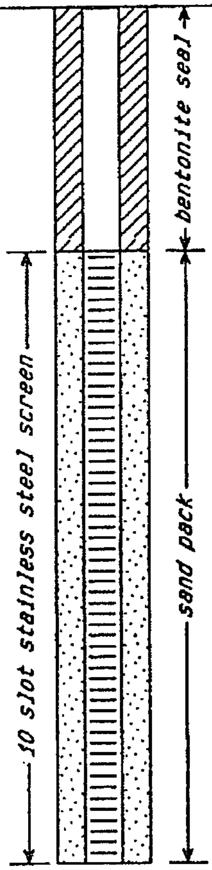
DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0			40		BKG	0-2' Silty sand, 30% silt, fine grained sand, dry, brown (5YR4/4).
2			100		BKG	2-4' Silt, 15% sand, some pebbles, pockets of green mineral; dry; brown, (5YR3/2).
4			70		BKG	4-6' 4-4.55' silt, as above. 4.55-5.4' sand and gravel, 50% gravel, 35% sand, fine grained, 15% clay, pockets of green mineral, wet, brown (5YR3/2).
6			100		BKG	6-8' Sand and gravel as above, wet, brown (5YR3/2).
8			100		BKG	8-10' 8-9' gravelly silt, 25% gravel, stringer of dull gray mineral at 9', moist, brown, (5YR3/2). 9-10' meadow mat, moist.

OVERBURDEN WELL

PROJECT STANDARD CHLORINE

WELL NUMBER MW-10L

WELL CONSTRUCTION DETAIL



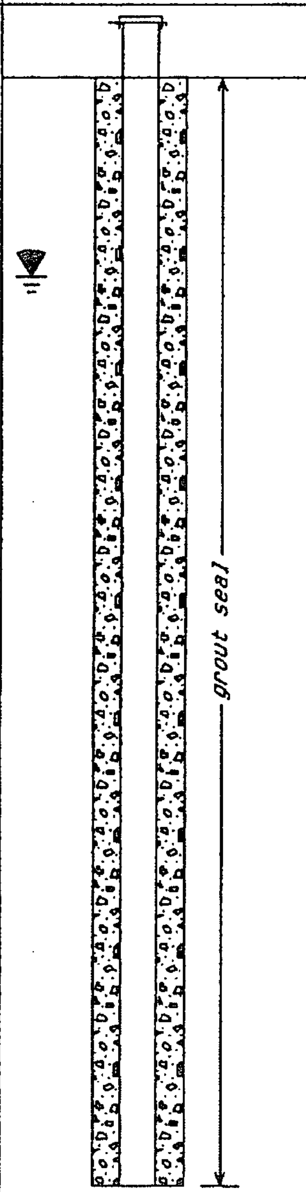
DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
9–10	X		100	BKG	
10–12	X		100	BKG	10-12' 10-10.9' caving, sand and gravel, wet, brown gray. 10.9-11.5' meadow mat, moist. 11.5-12' sandy clay, very plastic, very fine grained sand, 30% pieces of mat, moist, green gray (5G4/1).
12–14	X		80	BKG	12-14' 12-12.4' caving, sand and gravel, wet, brown gray. 12.4-13.6' sandy clay/clayey sand, 30% fine grained sand/30% clay; some clasts of red clay, dry, green gray (5G4/1).
14–16	X		100	BKG	14-16' 14-14.4' caving, sand and gravel. 14.4-14.7' sand, fine grained, well sorted, moist, gray (5Y4/1). 14.7-15.1' sand, fine grained, well sorted, moist, brown (10YR5/4). 15.1-16' silty sand, fine grained sand, 35-40% silt, dry, brown (5YR3/4).
16–17	X		100	BKG	16-17' 16-16.2' caving, wet. 16.2-16.6' sandy silt, very fine grained sand, 30%; moist, brown (5YR3/4). 16.6-17' silty clay, very stiff, crumbly, dry, brown (5YR3/4).

Depth scale: 9, 11, 13, 15, 17, 19, 21

OVERBURDEN WELL

Project: STANDARD CHLORINE	Well Number: MW-11L
Location: KEARNY, NJ	Coordinates: E603816.29, N698489.69
Geologist: Celia Greenman	Top of Casing Elevation: 7.88 feet
Drilling Contractor: J.C. Anderson	Groundsurface Elevation: 4.74 feet
Driller: Jon Urban	Total Borehole Depth: 18 feet
Drilling Method: Hollow stem auger	Total Well Depth: 17 feet
Diameter of Borehole: 12 inches	Date Started: 12/13/90
Diameter of Well Casing: 4 inches	Date Well Completed: 12/13/90

WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0			80		15-50	0-2' 0-.8' Silt with chrome slag, moist, brown (10YR4/2). .8-1.6' sand and gravel, black coating, odor, moist, black.
2			90		20-50	2-4' 2-2.7' sand and gravel fill, as above, odor, wet, black. 2.7-2.95' sand, fine grained, well sorted, 5% gravel (pea sized), moist, gray (N-5). 2.95-3.8' sand, fine grained, well sorted, 5% gravel, moist, brown (5YR5/2).
4			80		10	4-6' Slag fill, coated black, odor, wet, black.
6			100		20-110	6-8' 6-6.5' slag fill, sand, black coating, odor, wet, black. 6.5-7.5' sand, fine grained, clayey in pockets, 30% coated, strong odor, wet, black.
8			55		20-50	8-10' 8-8.3' caving, wet. 8.3-9.1' meadow mat, contains 5% sand and clay, moist, dark gray (5YR4/1).

OVERBURDEN WELL

PROJECT STANDARD CHLORINE WELL NUMBER MW-11L

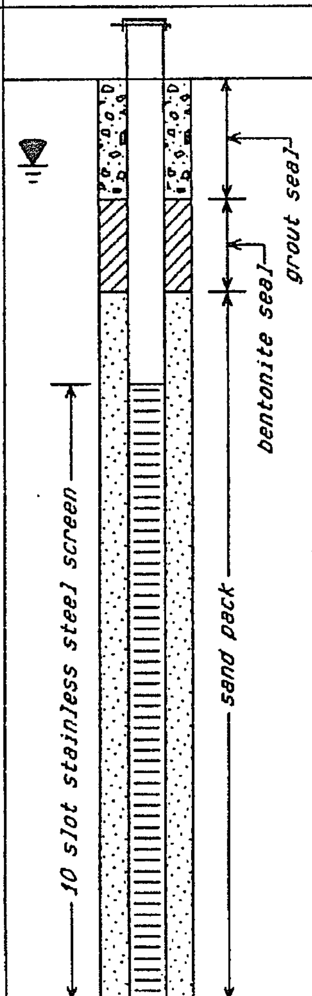
DEPTH IN FEET	WELL CONSTRUCTION DETAIL	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
9–10	bentonite seal (9–11)	X		55		20-50	
10–12	bentonite seal (9–11); sand pack (11–17)	X		100		20-50	10-12' 10-10.6' meadow mat, moist. 10.6-11.3' sandy clay, 40% sand, plastic, stained black, odor, moist, gray (5YR2/1). 11.3-12' sand, fine grained, well sorted, stiff clay lense at 11.9-12', moist, gray (5Y6/1).
12–14	sand pack; 10 slot stainless steel screen (12–17)	X		85		20	12-14' 12-12.5' caving. 12.5-13.7' sand, fine grained, very well sorted, no clay, wet, gray (5YR6/1).
14–16	sand pack; 10 slot stainless steel screen	X		100		30-70	14-16' 14-14.4' caving. 14.4-16' sand, fine grained, well sorted, gray (N-5). 15.2-16' clayey sand, clay 25-30%, moist, gray (N-5).
16–18	sand pack; 10 slot stainless steel screen (to 17)	X		100		10-110	16-18' 16-16.2' caving. 16.2-16.6' sandy clay, 15% fine grained sand, dry, gray (5YR6/1). 16.6-18' clay, stiff, slightly plastic, dry, gray (5YR4/1). HNU readings fell from 110 at the top of the clay to 10 at the base.

Depth scale: 9, 11, 13, 15, 17, 19, 21

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-11U
Location	KEARNY, NJ	Coordinates	E603822.89, N698493.74
Geologist	Celia Greenman	Top of Casing Elevation	7.2 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	4.64 feet
Driller	Jon Urban	Total Borehole Depth	7.5 feet
Drilling Method	Hollow stem auger	Total Well Depth	7.5 feet
Diameter of Borehole	12 inches	Date Started	12/13/90
Diameter of Well Casing	4 inches	Date Well Completed	12/13/90

WELL CONSTRUCTION DETAIL

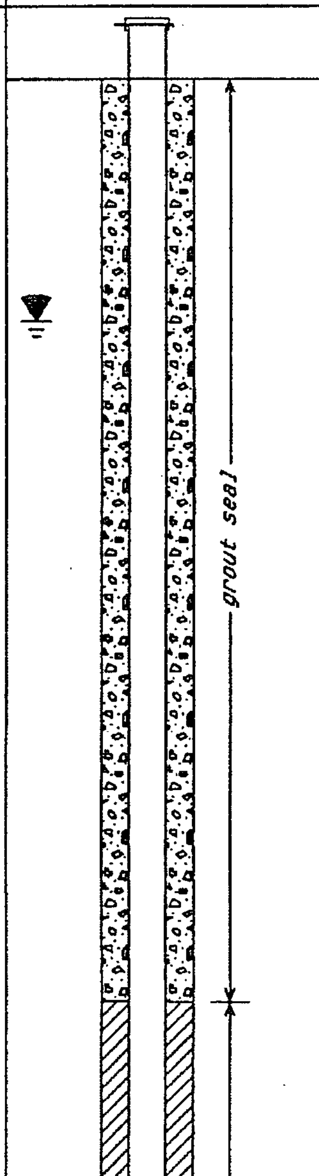


DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0	X		80		15-50	0-2' 0-.8' Silt with chrome slag, moist, brown (10YR4/2). .8-1.6' sand and gravel, black coating, odor, moist, black.
2	X		90		20-50	2-4' 2-2.7' sand and gravel fill, as above, odor, wet, black. 2.7-2.95' sand, fine grained, well sorted, 5% gravel (pea sized), moist, gray (N-5). 2.95-3.8' sand, fine grained, well sorted, 5% gravel, moist, brown (5YR5/2).
4	X		80		10	4-6' Slag fill, coated black, odor, wet, black.
6	X		100		20-110	6-8' 6-6.5' slag fill, sand, black coating, odor, wet, black. 6.5-7.5' sand, fine grained, clayey, in pockets, 30% coated, strong odor, wet, black.
8						

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-12L
Location	KEARNY, NJ	Coordinates	E603663.18, N698342.52
Geologist	Celia Greenman	Top of Casing Elevation	6.99 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	4.52 feet
Driller	Jon Urban	Total Borehole Depth	18 feet
Drilling Method	Hollow stem auger	Total Well Depth	17.5 feet
Diameter of Borehole	12 inches	Date Started	12/12/90
Diameter of Well Casing	4 inches	Date Well Completed	12/12/90

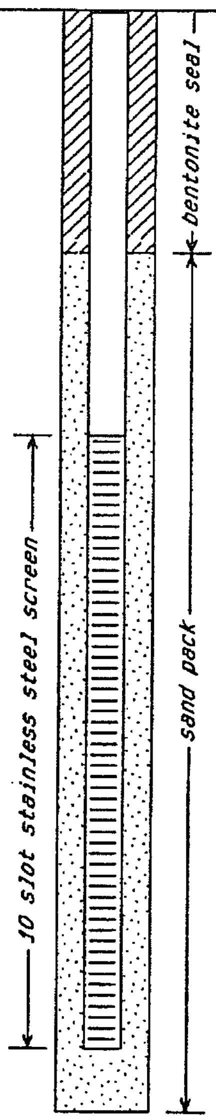
WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0–2			80		BKG	0-2' Sand and gravel fill, wet at 1', brown (5YR3/4).
2–4			25		BKG	2-4' 2-2.3' gravel fill, strong odor. 2.3-3.5' odor, black coal tarry coating, sheen, wet, brown (5YR3/4).
4–6			15		1	4-6' Gravel fill, odor, some lumber, wet, black.
6–8			70		10-20	6-8' 6-6.6' gravel fill as above, odor, wet, black. 6.6-7.4' meadow mat, moist.
8–10			50		15	8-10' 8-8.8' caving, wet, black. 8.8-9' meadow mat.

OVERBURDEN WELL

PROJECT STANDARD CHLORINE WELL NUMBER MW-12L



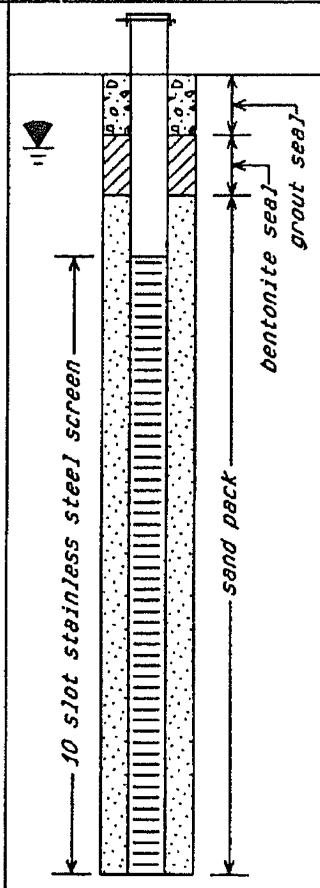
DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
9–10	X		50	15	
10–12	X		70	5-15	10-12' 10-10.6' caving. 10.6-11.4' sand, fine to very fine grained, well sorted, 20% clay, clay stringer at 11.1-11.2', moist, gray (5Y4/1).
12–14	X		90	30	12-14' 12-12.9' caving. 12.9-13.8' sand, fine grained, well sorted, no clay, moist, brown (10YR5/4).
14–16	X		100	50-80	14-16' 14-14.8' caving. 14.8-15' sand, fine grained, clayey, up to 20% in lenses, moist, gray (N-4). 15-15.1' black staining. 15.4-15.5' clay. 15.5-15.8' sand. 15.8-15.9' clay, gray, stiff.
16–18	X		45	20	16-18' 16-16.6' caving. 16.6-16.9' clay, stiff, crumbly, dry, gray (5Y4/1).

Depth scale: 9, 11, 13, 15, 17, 19, 21

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-12U
Location	KEARNY, NJ	Coordinates	E603664.83, N698337.61
Geologist	Celia Greenman	Top of Casing Elevation	8.13 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	4.55 feet
Driller	Jon Urban	Total Borehole Depth	6.5 feet
Drilling Method	Hollow stem auger	Total Well Depth	6.5 feet
Diameter of Borehole	12 inches	Date Started	12/13/90
Diameter of Well Casing	4 inches	Date Well Completed	12/13/90

WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0–2			80		BKG	0-2' Sand and gravel fill, wet at 1', brown (5YR3/4).
2–4			25		BKG	2-4' 2-2.3' gravel fill, strong odor. 2.3-3.5' odor, black coal tarry coating, sheen, wet, brown (5YR3/4).
4–6			15		1	4-6' Gravel fill, odor, some lumber, wet, black.
6–8			70		10-20	6-8' 6-6.6' gravel fill as above, odor, wet, black.

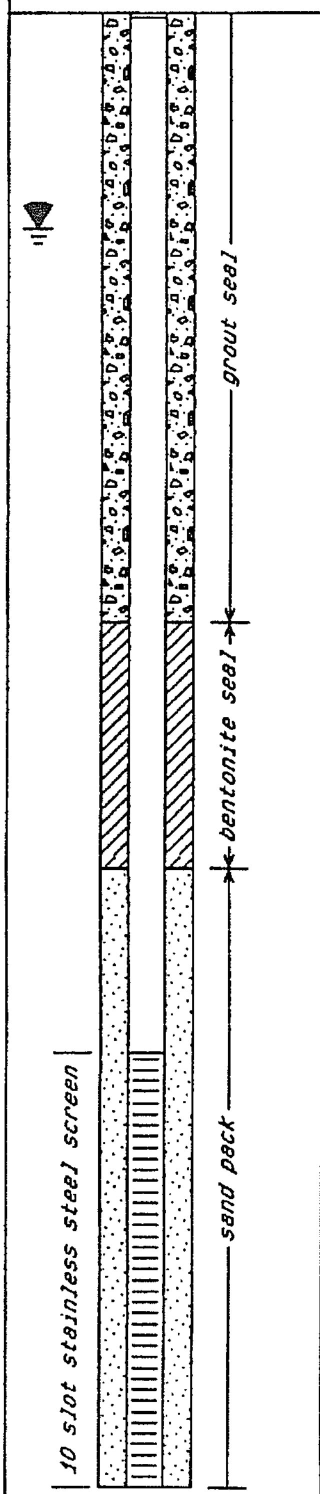
OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-13L
Location	KEARNY, NJ	Coordinates	E698375.52, N663923.15
Geologist	Celia Greenman	Top of Casing Elevation	11.59 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	9.01 feet
Driller	Jon Urban	Total Borehole Depth	22.5 feet
Drilling Method	Hollow stem auger	Total Well Depth	22.5 feet
Diameter of Borehole	12 inches	Date Started	12/17/90
Diameter of Well Casing	4 inches	Date Well Completed	12/17/90

DEPTH IN FEET	WELL CONSTRUCTION DETAIL	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0	grout seal	0-2		50		BKG	0-2' Silt with fine grained sand, chrome slag pellets, dry, brown (5YR4/4).
2	grout seal	2-4		70		6	2-4' 2-2.3' silt, dry, brown (5YR3/4). 2.3-2.8' sand, fine grained, black with white crystals, dry, black. 2.8-3.1' silt, moist, brown (5YR3/4). 3.1-3.4' sand, fine grained, moist gray (N-4).
4	grout seal	4-6		100		BKG	4-6' 4-4.2' caving, moist. 4.2-6' sand, fine to medium grained with 10% gravel, green pockets mineral, odor DCB, moist, gray (5GY4/1).
6	grout seal	6-8		100		BKG	6-8' Sand as above, odor DCB, moist, gray (5GY4/1).
8	grout seal	8-10		100		2	8-10' Sand, as above, odor, moist, gray (5GY4/1).

OVERBURDEN WELL

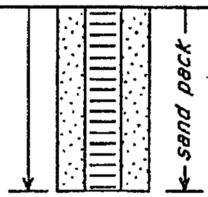
PROJECT STANDARD CHLORINE WELL NUMBER MW-13L



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	RECOVERY	HNU/OVA READING	DESCRIPTION
9			100	2	
11			100	5	10-12' Sand as above, 15% clay, bits of paper, moist, gray (5GY4/1).
13			100	19	12-14' 12-12.65' sand as above, black staining at 12.65', moist, gray (5GY4/1). 12.65-13' clay, moist, gray-brown. 13-14' meadow mat, moist.
15			100	5	14-16' 14-14.6' meadow mat. 14.6-15.3' sandy clay, 30% sand, fine grained, odor, wet, gray (5YR4/1). 15.3-16' sand, fine grained, well sorted, moist, gray (N-6).
17			100	6	16-18' 16-17.2' sand, fine grained, well sorted, 10% clay, odor, moist, gray (N-6). 17.2-18' sand, fine grained, well sorted, no clay, odor, moist, brown gray (5YR4/1).
19			100	30	18-20' 18-19' sand, very fine grained, clayey, up to 40%, caving?, moist, gray (N-6). 19-20' sand, fine to very fine grained, black staining 19.4-19.7', odor, moist, brown gray (5YR4/1).
21			100	25-50	20-22' 20-20.6' sand caving, moist, gray (N-6). 20.6-21.9' clayey sand, fine grained sand, 15% clay, clay stringer 21.4-21.5', black staining.

OVERBURDEN WELL

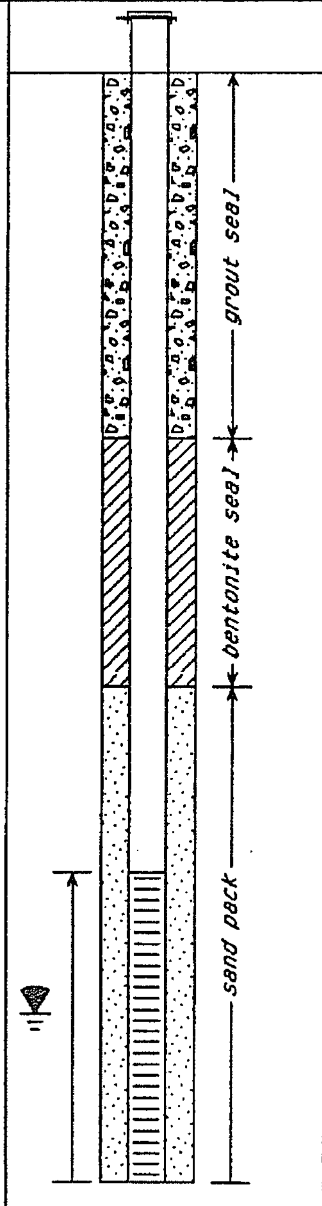
PROJECT STANDARD CHLORINE   WELL NUMBER MW-13L

DEPTH IN FEET	WELL CONSTRUCTION DETAIL	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
21				100		25-50	particularly 21.5-21.8', strong odor, moist, gray (N-3). 21.8-22' clay, stiff, dry, gray (N-5). *HNU readings on bottled samples.*
23							
25							
27							
29							
31							
33							

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-13U
Location	KEARNY, NJ	Coordinates	E603931.08, N698380.01
Geologist	Celia Greenman	Top of Casing Elevation	11.26 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	9.14 feet
Driller	Jon Urban	Total Borehole Depth	11.5 feet
Drilling Method	Hollow stem auger	Total Well Depth	11.5 feet
Diameter of Borehole	12 inches	Date Started	12/17/90
Diameter of Well Casing	4 inches	Date Well Completed	12/17/90

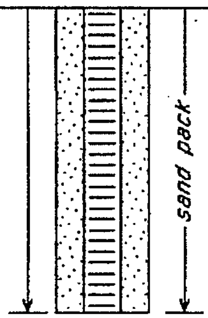
WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
0–2	0-2'		50		BKG	0-2' Silt with fine grained sand, chrome slag pellets, dry, brown (5YR4/4).
2–4	2-4'		70		6	2-4' 2-2.3' silt, dry, brown (5YR3/4). 2.3-2.8' sand, fine grained, black with white crystals, dry, black. 2.8-3.1' silt, moist, brown (5YR3/4). 3.1-3.4' sand, fine grained, moist gray (N-4).
4–6	4-6'		100		BKG	4-6' 4-4.2' caving, moist. 4.2-6' sand, fine to medium grained with 10% gravel, green pockets mineral, odor dCB, moist, gray (5GY4/1).
6–8	6-8'		100		BKG	6-8' Sand as above, odor dCB, moist, gray (5GY4/1).
8–	8-10'		100		2	8-10' Sand, as above, odor, moist, gray (5GY4/1).

OVERBURDEN WELL

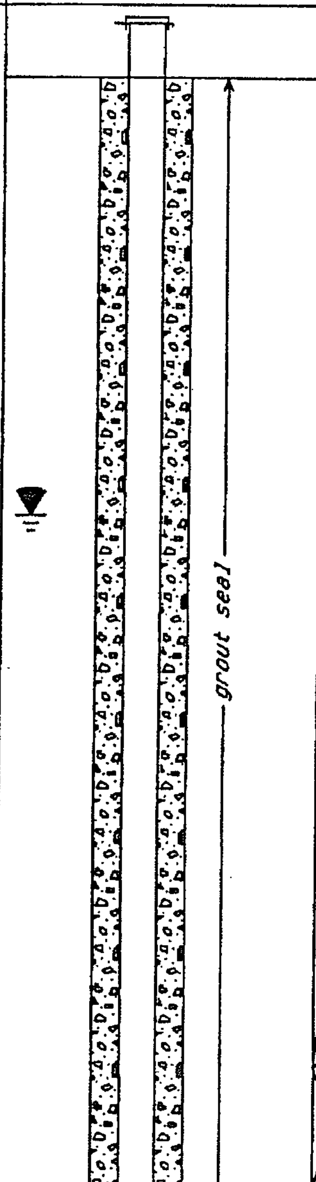
PROJECT STANDARD CHLORINE WELL NUMBER MW-13U



DEPTH IN FEET	WELL CONSTRUCTION DETAIL	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	GRAPHIC SYMBOL	HNU/OVA READING	DESCRIPTION
9				100		2	
11				100		5	10-12' Sand as above, 15% clay, bits of paper, moist, gray (5GY4/1).
13							
15							
17							
19							
21							

OVERBURDEN WELL

- Project: STANDARD CHLORINE
- Location: KEARNY, NJ
- Geologist: Celia Greenman
- Drilling Contractor: J.C. Anderson
- Driller: Jon Urban
- Drilling Method: Hollow stem auger
- Diameter of Borehole: 12 inches
- Diameter of Well Casing: 4 inches
- Well Number: MW-14L
- Coordinates: E604031.04, N698567.13
- Top of Casing Elevation: 7.99 feet
- Groundsurface Elevation: 5.82 feet
- Total Borehole Depth: 18 feet
- Total Well Depth: 18 feet
- Date Started: 12/17/90
- Date Well Completed: 12/17/90



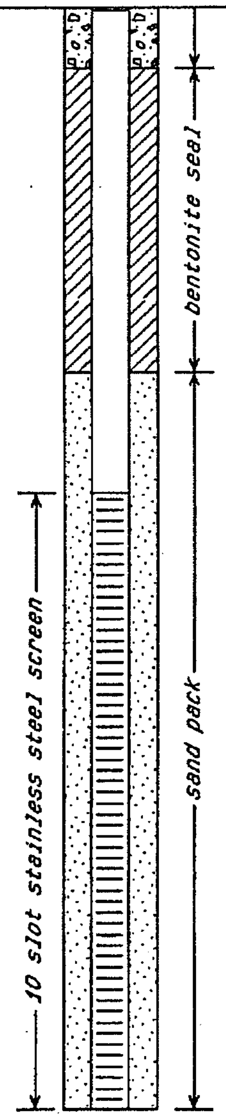
DEPTH IN FEET	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
0-2'		40	2-5	Silt with slag pellets, moist, brown (5YR3/4).
2-4'		70	BKG	2-2.3' silt and slag, caving, wet, brown (5YR3/4). 2.3-2.9' gravel and sand fill, gravel 1/2" diameter, medium grained sand 40%, brown (10YR6/6). 2.9-3.4' silt and gravel, moist, brown (10YR4/2).
4-6'		55	BKG	4-4.4' caving, slag pellets. 4.4-5.1' silt and gravel as above, lumber, wet, brown (10YR4/2).
6-8'		100	15	6-6.5' sand, medium to coarse grained, fragments of brick, small quartz pebbles, gray brown (5YR4/1). 6.5-7.5' slag pellets, wet. 7.5-8' sand, medium grained, well sorted, stained black at 8', wet, gray brown (10YR4/2).
8-10'		100	2-18	8-8.4' gravel caving, wet, gray (N-4). 8.4-10' meadow mat, bottom at 10' is quite woody, rest is very clayey, moist, gray (N-4).

OVERBURDEN WELL

PROJECT STANDARD CHLORINE

WELL NUMBER MW-14L

WELL CONSTRUCTION DETAIL

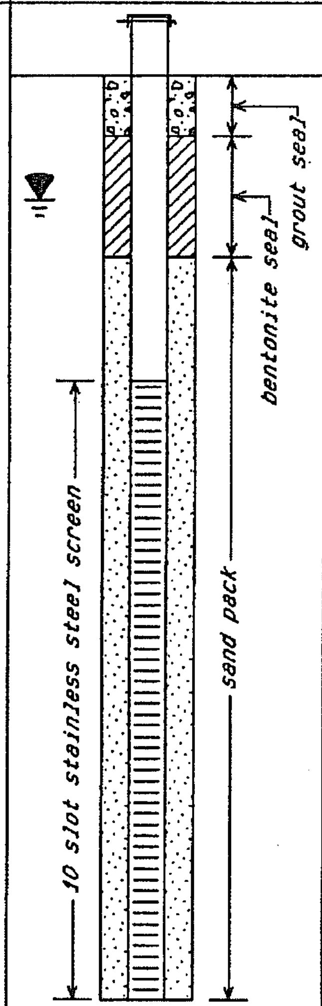


DEPTH IN FEET	% RECOVERY	HNU/OVA READING	DESCRIPTION
9–10	100	2-18	
10-12'	100	4-7	10-10.3' gravel caving. 10.3-10.6' clay, very plastic, sticky, odor, moist, gray (5YR2/1). 10.6-11' clay, sand and meadow mat, moist, gray (5YR2/1). 11-12' meadow mat, egg odor, grassy, moist.
12-14'	100	2	12-12.5' clay and meadow mat, caving, gray (N-3). 12.5-12.7' sand and meadow mat, fine grained, caving, dry, gray (N-4). 12.7-13.4' sand and clay, 50/50, fine grained, dry, gray (N-6). 13.4-14' sand, fine grained, well sorted, 10% clay, moist, gray (N-6).
14-16'	70	2	14-15' sand, fine grained, well sorted, moist, gray (N-6). 15-15.4' sand and clay 50/50, fine grained sand with interstitial clay, odor, dry, gray (N-6).
16-18'	100	20-60	16-16.5' sand and meadow mat, caving wet, gray (N-6). 16.5-16.7' clay, sandy, 20% fine grained sand, moist, gray (N-6). 16.7-18' clay, fairly stiff and crumbly, strong odor, slightly moist, gray (N-5). HNU 60 ppm at top of clay, 20 ppm at bottom.

Depth scale: 9, 11, 13, 15, 17, 19, 21

OVERBURDEN WELL

Project	STANDARD CHLORINE	Well Number	MW-14U
Location	KEARNY, NJ	Coordinates	E604027.39, N698573.33
Geologist	Celia Greenman	Top of Casing Elevation	8.27 feet
Drilling Contractor	J.C. Anderson	Groundsurface Elevation	5.59 feet
Driller	Jon Urban	Total Borehole Depth	7.5 feet
Drilling Method	Hollow stem auger	Total Well Depth	7.5 feet
Diameter of Borehole	12 inches	Date Started	12/17/90
Diameter of Well Casing	4 inches	Date Well Completed	12/18/90



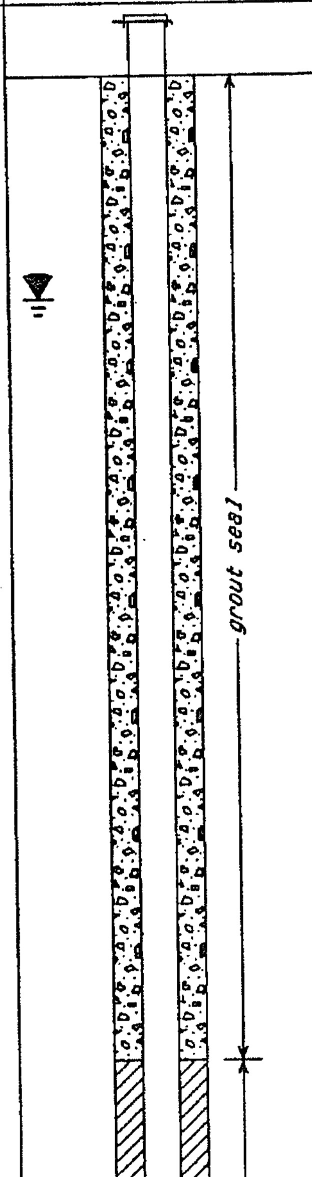
DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
0–2	0-2'		40	2-5	Silt with slag pellets, moist, brown (5YR3/4).
2–4	2-4'		70	BKG	2-2.3' silt and slag, caving, wet, brown (5YR3/4). 2.3-2.9' gravel and sand fill, gravel 1/2" diameter, medium grained, sand 40%, brown (10YR6/6). 2.9-3.4' silt and gravel, moist, brown (10YR4/2).
4–6	4-6'		55	BKG	4-4.4' caving, slag pellets. 4.4-5.1' silt and gravel as above, lumber, wet, brown (10YR4/2).
6–8	6-8'		100	15	6-6.5' sand, medium to coarse grained, fragments of brick, small quartz pebbles, fairly well sorted, gray brown (5YR4/1). 6.5-7.5' slag pellets, wet. 7.5-8' sand, medium grained, well sorted, stained black at 8', wet, gray brown (10YR4/2).

OVERBURDEN WELL

Project STANDARD CHLORINE
Location KEARNY, NJ
Geologist Celia Greenman
Drilling Contractor J.C. Anderson
Driller Jon Urban
Drilling Method Hollow stem auger
Diameter of Borehole 12 inches
Diameter of Well Casing 4 inches

Well Number MW-15L
Coordinates E693135.12, N697843.83
Top of Casing Elevation 6.4 feet
Groundsurface Elevation 3.9 feet
Total Borehole Depth 16 feet
Total Well Depth 16 feet
Date Started 12/6/90
Date Well Completed 12/6/90

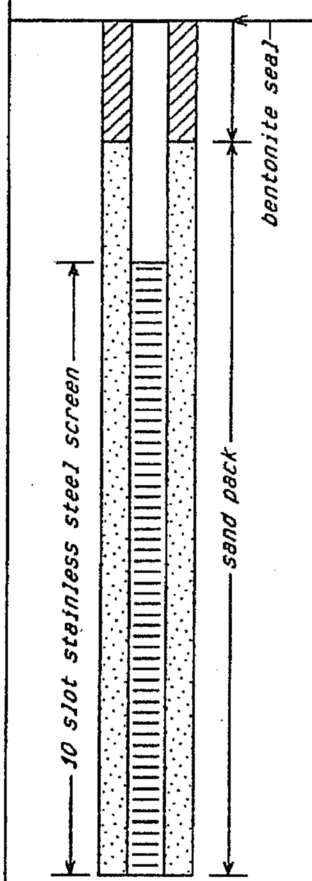
WELL CONSTRUCTION DETAIL



DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	RECOVERY	HNU/OVA READING	DESCRIPTION
0-2'			100	BKG	0-2' black and gray asphalt material.
2-4'			88	1	2-2.3' silt, dark gray. 2.3-2.7' brick. 2.7-3.5' black silt and limestone fragment fill. 3.5-3.75' lumber.
4-6'			50	BKG	4-5' no sample. 5-6' fill, dark brown silt and gray sandy material with large flakes of mica; possible meadow mat in nose of spoon.
6-8'			33	BKG	Some mica and meadow mat.
8-10'			25	BKG	Meadow mat, fine grained sand in nose of spoon, very soft material, sand is brown gray (5YR3/2)

OVERBURDEN WELL

PROJECT STANDARD CHLORINE WELL NUMBER MW-15L



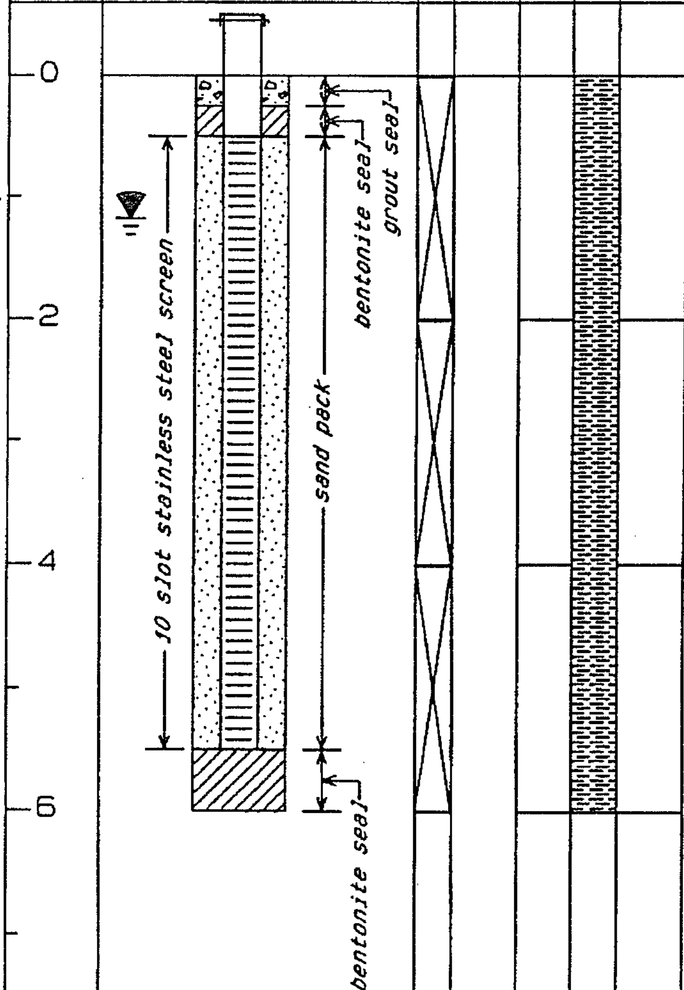
DEPTH IN FEET	SAMPLE INTERVAL	BLOW COUNT	% RECOVERY	HNU/OVA READING	DESCRIPTION
9–10	X		25	BKG	
10–12	X		65	BKG	10-12' 10-10.25' meadow mat, caving. 10.25-10.75' fine grained to very fine grained sand with pieces of meadow mat, brown gray (5YR4/1), clay is 30-35%. 10.75-11.3' fine grained sand, no clay (5YR4/1).
12–14	X		63	2	12-14' 12-12.25' caving. 12.25-13.25' sand, fine grained, brown-gray (5YR4/1).
14–16	X		75	150	14-16' 14-15.25' sand, brown gray (5YR4/1), medium to coarse, well sorted, wet 15.25-15.5' clay, brown-gray, stiff, oozing, brown-blue, liquid.

Depth scale: 9, 11, 13, 15, 17, 19, 21

OVERBURDEN WELL

Project: STANDARD CHLORINE	Well Number: MW-15U
Location: KEARNY, NJ	Coordinates: E603138.76, N697842.67
Geologist: Celia Greenman	Top of Casing Elevation: 6.44 feet
Drilling Contractor: J.C. Anderson	Groundsurface Elevation: 3.85 feet
Driller: Jon Urban	Total Borehole Depth: 6 feet
Drilling Method: Hollow stem auger	Total Well Depth: 6 feet
Diameter of Borehole: 12 inches	Date Started: 12/6/90
Diameter of Well Casing: 4 inches	Date Well Completed: 12/6/90

DEPTH IN FEET | WELL CONSTRUCTION DETAIL | SAMPLE INTERVAL | BLOW COUNT | % RECOVERY | GRAPHIC SYMBOL | HNU/OVA READING | DESCRIPTION



Interval	Description
0-2'	0-2' black and gray asphalt material.
2-4'	2-2.3' silt, dark gray. 2.3-2.7' brick. 2.7-3.5' black silt and limestone fragment fill. 3.5-3.75' lumber.
4-6'	4-5' no sample. 5-6' fill, dark brown silt and gray sandy material with large flakes of mica possible meadow mat in nose of spoon.
6-8'	Some mica and meadow mat.

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
FOCUSED REMEDIAL INVESTIGATION
(1996)

ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-1
Project: Focused Remedial Investigation			
Date Started: 8/16/96	Date Completed: 8/16/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: ATV Portable Rig	Grout: NA	From: -To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.82 ft.	Inner Casing: NA	
Initial GW Level: 2.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0						0-2 ft. - 0-6" - asphalt; 6"-2' - gray medium to coarse angular gravel, some fine to coarse sand, moist.		NA
2		4"	1,2,2,2	2		2-4 ft. - Black cinders, some fine to coarse sand, some fine to coarse gravel, wet throughout.		
4		2"	2,1,1,1	1		4-6 ft. - Same as previous, wet.		
6		4"	2,2,10,2	1		6-8 ft. - Same as previous with occasional wood pieces, wet.		
8		4"	4,4,3,3			8-10 ft. - Dark brown organic clayey silt to 9 ft; Dark brown meadow mat, wet from 9-10 ft.		
10		6"	4,4,3,4			10-12 ft. - Brown meadow mat and dark gray organic clay, wet.		
12								

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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-3
roject: Focused Remedial Investigation			
Date Started: 8/5/96	Date Completed: 8/5/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA	From: -To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.63 ft.	Inner Casing: NA	
Initial GW Level: 4.0 ft.	GW Level: NA / Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		16"	16,20,16,19	15		12-14 ft. - Medium brown fine to medium sand, trace silt, very moist to wet, distinct odor.		NA
14		20"	13,16,18,20	2		14-16 ft. - Medium reddish-gray and brown fine to medium sand, some silt, saturated with DNAPL, grading to clayey silt by 15.5 ft., with frequent fine sand lenses. The lenses of sand are black and saturated with DNAPL to 16 ft.		
16		20"	12,13,15,19	2		16-18 ft. - Medium gray clayey silt/silty clay, trace fine sand lenses, odor, but no DNAPL observed.		
18								
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ERM

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-4
roject: Focused Remedial Investigation			
Date Started: 8/12/96	Date Completed: 8/12/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA	From: -To:
Boring Depth: 16 ft.	Ground Surface Elevation: 4.20 ft.	Inner Casing: NA	
Initial GW Level: 4.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		12"	5,5,13,15	0		0-2 ft. - Medium gray-brown to reddish-brown to black fine to coarse sand fill, some fine rounded gravel, some silt, moist.		NA
2		20"	5,5,5,5	0.5		2-4 ft. - Medium to dark reddish-brown and gray fine to coarse sand, fine rounded and angular gravel, some silt, moist, wet at 4.0 ft.		
4		24"	2,3,5,6	1		4-6 ft. - Same as previous, wet.		
6		4"	2,1,1,2			6-8 ft. - Dark brown meadow mat, some organic silt, moist.		
8		14"	2,2,3,8			8-10 ft. - Same as above to 9.5 ft.; 9.5-10 ft. Olive-green fine sand, some silt, wet.		
10		16"	5,5,6,6	3		10-12 ft. - Same as above to 11 ft.; 11-12 ft. Dark gray to black fine to medium sand, little silt, wet.		
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300 Phillips Boulevard, Suite 200
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Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-4
Project: Focused Remedial Investigation			
Date Started: 8/12/96	Date Completed: 8/12/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA	From: -To:
Boring Depth: 16 ft.	Ground Surface Elevation: 4.20 ft.	Inner Casing: NA	
Initial GW Level: 4.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		10"	8,9,12,15	5		12-14 ft. - Dark gray to black fine to medium sand, little/some silt, wet, grading siltier with depth.		NA
14		18"	8,12,14,16	25		14-16 ft. - Same as above to 14.5 ft.; 14.5-15.5 ft. Medium brown fine to medium sand, trace silt, wet, saturated with DNAPL from 15-15.5 ft.; 15.5-16 ft. Medium gray silty clay with occasional fine sand lenses, wet.		
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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-5
roject: Focused Remedial Investigation			
Date Started: 8/6/96	Date Completed: 8/6/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA	From: -To:
Boring Depth: 20 ft.	Ground Surface Elevation: 6.40	Inner Casing: NA	
Initial GW Level: 7.5 ft.	GW Level: NA / Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		20"	5,7,6,6	5		0-2 ft. - Medium to dark brown fine to coarse sand fill, some silt, some angular gravel, occasional cinders, moist.		NA
2		18"	6,6,5,5	4		2-4 ft. - Medium gray and green medium to coarse sand and clayey silt fill, trace fine to coarse gravel, moist to very moist.		
4		20"	3,3,9,8	5		4-6 ft. - Same as previous, moist.		
6		24"	9,8,10,12	5		6-8 ft. - Same as previous, wet at 7.5 ft.		
8		24"	3,3,4,3	4		8-10 ft. - Same as previous to 9.5 ft. 9.5-10 ft. Dark brown-black meadow mat and organic silt, moist.		
10		10"	3,3,2,3			10-12 ft. - Dark brown-black meadow mat and organic silt, moist.		
12								

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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-5	
Project: Focused Remedial Investigation					
Date Started: 8/6/96	Date Completed: 8/6/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA		From:	-To:
Boring Depth: 20 ft.	Ground Surface Elevation: 6.40	Inner Casing: NA			
Initial GW Level: 7.5 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		22"	4,3,8,9	3		12-14 ft. - Medium to light gray fine sand, trace silt, wet at 13 ft.		NA
14		16"	17,26,29,21	2		14-16 ft. - Light gray, well sorted, fine to coarse sand, trace fine rounded gravel, trace silt, wet.		
16		8"	26,27,29,21	4		16-18 ft. - Light gray fairly well sorted fine to medium sand, little/some silt, grading finder with depth, wet.		
18		18"	8,10,9,12	3		18-20 ft. - Light reddish-gray clayey silt, occasional fine sand lenses, moist to very moist.		
20								
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24								

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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-6	
Project: Focused Remedial Investigation					
Date Started: 8/7/96	Date Completed: 8/7/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA		From:	-To:
Boring Depth: 22 ft.	Ground Surface Elevation: 7.99 ft.	Inner Casing: NA			
Initial GW Level: 6.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		10"	6,2,2,2	0		0-2 ft. - Orange-brown fine to medium sand fill, some silt, little fine angular gravel, damp; 1-2 ft. Dark gray clayey silt and medium to coarse sand, little fine to coarse gravel, moist.		NA
2		20"	3,4,3,3	0		2-4 ft. - Dark gray clayey silt and medium to coarse sand fill, little fine to coarse gravel with yellow and green rock pieces, moist.		
4		24"	3,6,8,9	0		4-6 ft. - Same as previous, very moist.		
6		24"	3,4,5,5	1		6-8 ft. - Same as previous, wet at 6 ft.		
8		18"	3,3,10,10	0		8-10 ft. - Same as previous, wet.		
10		4"	3,3,2,2			10-12 ft. - Dark brown and black peat and organic silt, moist.		
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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-1
Project: Focused Remedial Investigation			
Date Started: 8/16/96	Date Completed: 8/16/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: ATV Portable Rig	Grout: NA	From: -To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.82 ft	Inner Casing: NA	
Initial GW Level: 2.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		10"	5,11,12,12	0		12-14 ft. - Medium to dark gray fine to medium sand, fairly well sorted, trace fine subangular gravel, wet.		NA
14		10"	10,12,13,18	0		14-16 ft. - Medium gray fine to medium sand, grading finer with depth, trace fine subangular gravel, wet.		
16		16"	6,7,6,6	0		16-18 ft. - Reddish-gray varved clayey silt, occasional lenses of fine sand, moist, stiff.		
18								
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ERM
300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-2
Project: Focused Remedial Investigation			
Date Started: 8/6/96	Date Completed: 8/6/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA	From: -To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.30 ft	Inner Casing: NA	
Initial GW Level: 4.0 ft.	GW Level: NA / Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		10"	4,10,8,9	4		0-2 ft. - Reddish brown fine to medium sand and clayey silt fill, frequent rounded and angular gravel, wet to 1.5 ft. 1.5-2 ft. Black medium to coarse sand and cinder fill, very moist.		NA
2		0"	3,6,8,9			2-4 ft. - No recovery.		
4		12"	8,8,9,11	10		4-6 ft. - Black clayey silt fill, some medium to coarse sand, little coarse gravel, wet, sheen on soil.		
6		20"	4,10,11,12	12		6-8 ft. - Same as previous, wood timber piece present at tip of spoon (8 ft.).		
8		0"	3,2,2,3			8-10 ft. - No recovery; based on blow counts, probable meadow mat.		
10		24"	7,8,8,7	2		10-12 ft. - Dark brown and black meadow mat and organic silt, very moist to wet. 11.5-12 ft. Light gray-brown fine sand, some silt, very moist to wet.		
12								

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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-2	
roject: Focused Remedial Investigation					
Date Started: 8/6/96	Date Completed: 8/6/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA		From:	-To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.30 ft.	Inner Casing: NA			
Initial GW Level: 4.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		14"	17,18,26,30	1		12-14 ft. - Light gray fine to medium fairly well sorted sand, trace silt, wet.		NA
14		16"	12,15,16,18	2		14-16 ft. - Light gray same as previous with increasing silt content (30% by 15.5 ft.). Sand is saturated with dark brown DNAPL from 15.5-16 ft.		
				15				
16		16"	9,8,10,12	5		16-18 ft. - Medium brown-gray clayey silt/silty clay, occasional lenses of fine sand throughout, moist.		
18								
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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-3	
Project: Focused Remedial Investigation					
Date Started: 8/5/96	Date Completed: 8/5/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA		From:	-To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.63 ft.	Inner Casing: NA			
Initial GW Level: 4.0 ft.	GW Level: NA / Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		24"	6,8,12,10	0		0-2 ft. - 0 to 0.67 ft. Red-brown medium to coarse sand, some silt, some fine to coarse angular gravel, wet. 0.67 to 1.3 ft. Black coarse sand and cinders, very moist. 1.3 to 2 ft. Light gray-green silt, some fine sand, moist.		NA
2		24"	6,8,10,10	2		2-4 ft. - Gray-green and red fine to medium sand, silt and fine rounded gravel fill, moist.		
4		24"	3,6,8,8	3		4-6 ft. - Dark gray-black fine to medium sand and cinder fill, wet to 5 ft. 5-6 ft. Light gray-green silt, some fine sand, moist.		
6		6"	2,1,1,1			6-8 ft. - Brown meadow mat, moist.		
8		24"	2,1,1,1			8-10 ft. - Same as previous, moist.		
10		6"	2,2,2,2	1		10-12 ft. - Light gray fine sand, some clayey silt, moist.		
12								

ERM
300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-6	
roject: Focused Remedial Investigation					
Date Started: 8/7/96	Date Completed: 8/7/96	Screen: NA	From:	-To:	
Logged By: F. Nemec	Checked By:	Pack: NA	From:	-To:	
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From:	-To:	
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA	From:	-To:	
Boring Depth: 22 ft.	Ground Surface Elevation: 7.99 ft.	Inner Casing: NA			
Initial GW Level: 6.0 ft.	GW Level: NA	Time/Date NA	Outer Casing/Stick Up: NA		

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		2"	1,1,1,1			12-14 ft. - Dark brown and black peat and organic silt, wet.		NA
14		18"	5,5,9,10	2		14-16 ft. - Same as previous to 15 ft.; 15-16 ft. Light gray-brown fine sand and silt, grading coarser with depth , wet.		
16		16"	9,10,14,18	0		16-18 ft. - Medium reddish-gray well sorted fine to coarse sand, trace silt, wet.		
18		10"	21,18,16,14	0		18-20 ft. - Medium yellow-brown fine to medium sand, trace fine rounded gravel, trace silt, wet.		
20		14"	6,6,5,7	0		20-22 ft. - Medium brown-gray stiff silty clay, trace lenses of fine sand, very moist to wet.		
22								
24								

ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-7
Project: Focused Remedial Investigation			
Date Started: 8/16/96	Date Completed: 8/16/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: ATV Portable Rig	Grout: NA	From: -To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.17 ft.	Inner Casing: NA	
Initial GW Level: 3.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		10"	3,2,2,2	3		0-2 ft. - Medium reddish-brown silt and fine sand fill, frequent fine to coarse angular gravel, moist.		NA
2		16"	10,6,5,4	3 6		2-4 ft. - Same as previous to 3 ft.; 3-4 ft. Black fine to coarse sand fill, freq. cinders, some fine gravel, wet, with occasional fine brick fragments.		
4		2"	3,2,2,2	10		4-6 ft. - Black cinders, wet, distinct odor.		
6		18"	3,2,3,6	7		6-8 ft. - Dark gray to black fine sand and silt fill, loose, wet and saturated with product (oily sheen), low odor.		
8		14"	6,5,6,8	5		8-10 ft. - Medium to dark gray silt and fine sand fill, trace fine gravel/cinders, wet, oily sheen becoming less evident with depth within silt.		
10		0"	3,1,2,3			10-12 ft. - No recovery.		
12								

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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-7	
Project: Focused Remedial Investigation					
Date Started: 8/16/96	Date Completed: 8/16/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: ATV Portable Rig	Grout: NA		From:	-To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.17 ft.	Inner Casing: NA			
Initial GW Level: 3.0 ft.	GW Level: NA / Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		10"	2,4,4,3	7		12-14 ft. - Dark gray mucky, loose fine sand and silt, wet, saturated with an oily sheen.		NA
14		12"	15,15,15,16	8		14-16 ft. - Medium brown fine to medium sand, trace silt, wet with an oily sheen.		
16		6"	6,9,8,10	4		16-18 ft. - Medium reddish-gray clayey silt, occasional fine sand lenses, moist.		
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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-8	
Project: Focused Remedial Investigation					
Date Started: 8/5/96	Date Completed: 8/5/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: CME Rig	Grout: NA		From:	-To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.53 ft.	Inner Casing: NA			
Initial GW Level: 2.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		14"	12,14,21,22	3		0-2 ft. - Brown-red medium to coarse sand fill, some fine angular gravel, moist, to 1.0 ft.; 1.0-2.0 ft. Black fine to coarse sand and cinder fill, some fine angular and rounded gravel, very moist, dense.		NA
2		6"	10,12,14,14	7		2-4 ft. - Black medium to coarse sand and fine angular gravel fill, wet, dense.		
4		6"	6,10,12,20	5		4-6 ft. - Same as previous, wet.		
6		14"	4,2,2,2	9		6-8 ft. - Medium greenish-gray clayey silt, some fine sand, occasional black cinder pieces, wet, to 7.5 ft.; 7.5-8 ft. Brown meadow mat.		
8		0"	6,8,8,9			8-10 ft. - No recovery.		
10		10"	3,4,7,9	7		10-12 ft. - Dark brown/black meadow mat and organic silt, wet.		
12								

ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-8
Project: Focused Remedial Investigation			
Date Started: 8/5/96	Date Completed: 8/5/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Rig	Grout: NA	From: -To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.53 ft.	Inner Casing: NA	
Initial GW Level: 2.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		6"	4,4,5,8	15		12-14 ft. - Dark gray fine sand, poorly sorted, trace/little silt, wet, slight sheen, odor.		NA
14		14"	16,17,22,18	4		14-16 ft. - Light to medium brown-gray fine sand, poorly sorted, wet, trace silt to 15 ft.; 15-16 ft. Medium reddish-gray clayey silt, varved, with trace fine sand lenses, moist.		
16		16"	12,12,12,9	2		16-18 ft. - Medium brown-gray silty clay (increasing clay content with depth), stiff, moist, trace fine sand lenses.		
18								
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ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-9
Project: Focused Remedial Investigation			
Date Started: 8/12/96	Date Completed: 8/12/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: ATV Portable Rig	Grout: NA	From: -To:
Boring Depth: 16 ft.	Ground Surface Elevation: 4.50 ft.	Inner Casing: NA	
Initial GW Level: 2.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		18"	3,4,5,5	30		0-2 ft. - Red-brown clayey silt fill, some fine to coarse sand, occasional fine to coarse angular gravel, moist to very moist, very strong solvent odor.		NA
2		18"	4,8,9,9	100		2-4 ft. - Same as previous, wet to 3 ft.; 3-4 ft. Dark green-gray and black fine to coarse sand and cinders, some coarse gravel, wet, very strong solvent odor.		
4		14"	5,5,6,7	150		4-6 ft. - Green-gray silt, fine sand, fine gravel and cinder fill, wet to 5.5 ft., with a strong solvent odor, becoming moist from 5.5-6 ft. with increasing silt/clay content.		
6		0"	2,2,2,2			6-8 ft. - No recovery.		
8		12"	1,1,1,1	20		8-10 ft. - Dark brown meadow mat, some organic silt, slight solvent odor, moist.		
10		18"	5,5,4,4	1		10-12 ft. - Medium gray fine sand and clayey silt, very moist to wet from 10 to11.5 ft.; 11.5-12 ft. Gray fine to medium sand, little silt, wet.		
12								

ERM
300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-9
Project: Focused Remedial Investigation			
Date Started: 8/12/96	Date Completed: 8/12/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: ATV Portable Rig	Grout: NA	From: -To:
Boring Depth: 16 ft.	Ground Surface Elevation: NA	Inner Casing: NA	
Initial GW Level: 2.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		18"	4,6,12,14	1.5		12-14 ft. - Gray with red streaking, fine to medium sand, little silt, wet.		NA
14		16"	12,13,15,18	10		14-16 ft. - Medium gray intervals of wet fine to medium sand and clayey silt grading to medium gray clayey silt/silty clay with fine sand lenses. Sand intervals from 14-15.5 ft. contain a sheen on water.		
16								
18								
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24								

ERM
300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-10	
roject: Focused Remedial Investigation					
Date Started: 8/16/96	Date Completed: 8/16/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: ATV Portable Rig	Grout: NA		From:	-To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.19 ft.	Inner Casing: NA			
Initial GW Level: 3.5 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		16"	11,21,32,28	20		0-2 ft. - Brown clayey silt fill, with fine to coarse sand, and fine to coarse rounded gravel, wet, to 0.5 ft. 0.5-2 ft. Black fine to coarse sand, cinders, some fine to coarse angular gravel, very moist with a pungent odor, bricks are located at 2 ft.		NA
2		20"	14,17,15,13	3		2-4 ft. - Black cinder fill, some fine to coarse sand, wet with a sheen beginning at 3.5 ft.		
4		14"	7,6,8,4	3		4-6 ft. - Same as previous, wet with a sheen.		
6		6"	4,3,3,3	2		6-8 ft. - Same as previous, wet with a sheen.		
8		0"	1,1,1,1			8-10 ft. - No recovery.		
10		14"	1,1,1,2			10-12 ft. - Brown meadow mat, some organic silt, very moist to 11.5 ft.; 11.5-12 ft. Medium gray fine sand, some silt, wet.		
12								

ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-10
Project: Focused Remedial Investigation			
Date Started: 8/16/96	Date Completed: 8/16/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: ATV Portable Rig	Grout: NA	From: -To:
Boring Depth: 18 ft.	Ground Surface Elevation: 4.19 ft.	Inner Casing: NA	
Initial GW Level: 3.5 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		14"	7,7,8,8	15		12-14 ft. - Dark gray and black fine sand, some silt, wet, fingers of DNAPL observed throughout sample.		NA
14		20"	6,6,7,7	15		14-16 ft. - Same as previous, DNAPL concentrations increasing with depth. Beginning at 15.5 ft., sand is becoming medium brown, coarser, with significantly less DNAPL observed.		
16		10"	9,11,13,13	20		16-18 ft. - Medium brown fine to medium sand, wet, continual saturation with DNAPL to 16.5 ft.; 16.5-18 ft. Medium gray silt, trace clay, trace fine sand (lenses), dry to damp.		
18								
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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

ERM

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-11
roject: Focused Remedial Investigation			
Date Started: 8/6/96	Date Completed: 8/6/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Rig	Grout: NA	From: -To:
Boring Depth: 16 ft.	Ground Surface Elevation: 3.56 ft.	Inner Casing: NA	
Initial GW Level: 8.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		12"	6,6,7,6	1		0-2 ft. - Orange-brown fine to medium sand and silt fill, trace fine gravel, moist, to 1.0 ft.; 1-2 ft. Dark brown silty clay, fine to coarse sand and gravel fill, very moist.		NA
2		24"	3,4,6,6	15		2-4 ft. - Dark brown fine to medium sand fill, some silty clay, some fine rounded gravel, very moist with sheen on soil.		
4		24"	19,20,31,40	3		4-6 ft. - Brown fine to medium sand fill, some silty clay, some fine rounded gravel, moist.		
6		12"	14,16,12,4	3		6-8 ft. - Same as previous to 7 ft.; 7-7.5 ft. Black organic silt and peat; 7.5-8 ft. Wood pieces (from meadow mat), very moist.		
8		0"	4,10,9,12			8-10 ft. - No recovery.		
10		14"	7,8,9,9	4		10-12 ft. - Dark gray fine to medium fairly well sorted sand, little silt, wet.		
12								

ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-11
roject: Focused Remedial Investigation			
Date Started: 8/6/96	Date Completed: 8/6/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Rig	Grout: NA	From: -To:
Boring Depth: 16 ft.	Ground Surface Elevation: 3.56 ft.	Inner Casing: NA	
Initial GW Level: 8.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		10"	9,10,10,12	2		12-14 ft. - Brown fine to medium fairly well sorted sand, trace silt, wet.		NA
14		12"	9,11,13,13	15		14-16 ft. - Same as previous to 15.5 ft. with 15-15.5 ft. interval saturated with DNAPL. 15.5-16 ft. Medium gray stiff clayey silt, damp to moist.		
16								
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ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-12
roject: Focused Remedial Investigation			
Date Started: 8/7/96	Date Completed: 8/7/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Rig	Grout: NA	From: -To:
Boring Depth: 18 ft.	Ground Surface Elevation: 6.63 ft.	Inner Casing: NA	
Initial GW Level: 3.5 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		6"	7,1,2,3	0		0-2 ft. - Orange-brown silt and fine to medium sand fill, some fine to coarse angular gravel and cinders, damp.		NA
2		22"	3,2,2,2	0		2-4 ft. - Medium to dark gray fine to coarse sand fill, some fine to coarse gravel, some silt, moist, becoming wet at 3.5 ft.		
4		24"	8,6,10,12	0		4-6 ft. - Same as previous, wet.		
6		18"	4,8,9,11	1		6-8 ft. - Same as previous to 7.5 ft.; 7.5-8 ft. Gray silty clay fill, some medium to coarse sand, trace fine gravel, wet.		
8		24"	6,10,11,12	1		8-10 ft. - Medium gray fine to medium sand fill, some clayey silt, with white and green fine angular gravel throughout, wet.		
10		24"	4,4,3,4			10-12 ft. - Same as previous to 10.5 ft., grading to dark gray silty organic clay from 10.5-11 ft., soft, very moist. 11-12 ft. Dark brown peat (meadow mat) with some black staining from the organic clay, moist.		
12								

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

ERM

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01	Boring/Well: SB-12
roject: Focused Remedial Investigation			
Date Started: 8/7/96	Date Completed: 8/7/96	Screen: NA	From: -To:
Logged By: F. Nemec	Checked By:	Pack: NA	From: -To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA	From: -To:
Method: Mud Rotary	Equipment: CME Rig	Grout: NA	From: -To:
Boring Depth: 18 ft.	Ground Surface Elevation: 6.63 ft	Inner Casing: NA	
Initial GW Level: 3.5 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA	

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		2"	1,1,1,1			12-14 ft. - Dark brown peat (meadow mat), little dark gray organic silt, moist.		NA
14		18"	5,5,9,10	2		14-16 ft. - Same as previous to 15 ft.; 15-16 ft. Light gray-brown fine sand and silt, grading coarser with depth, wet.		
16		16"	9,10,14,18	0		16-18 ft. - Medium reddish-gray well sorted fine to coarse sand, trace silt, wet.		
18		10"	21,18,16,14	0		18-20 ft. - Medium yellow-brown fairly well sorted fine to medium sand, trace fine rounded gravel, trace silt, wet.		
20		14"	6,6,5,7	0		20-22 ft. - Medium brown-gray silty clay, trace lenses of fine sand, very moist to wet.		
22								
24								

ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-13	
Project: Focused Remedial Investigation					
Date Started: 8/12/96	Date Completed: 8/12/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA		From:	-To:
Boring Depth: 16 ft.	Ground Surface Elevation: 4.27	Inner Casing: NA			
Initial GW Level: 3.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		0"	5,3,1,2			0-2 ft. - No recovery.		NA
2		10"	2,1,1,1	0		2-4 ft. - Dark brown fine to coarse sand fill, some fine to coarse angular gravel, some silt, wet beginning at 3 ft.		
4		14"	10,27,8,3	1		4-6 ft. - Same as previous to 5.5 ft.; 5.5-6 ft. Dark reddish orange silty clay and fine to coarse sand fill, some fine angular gravel, wet.		
6		8"	3,4,4,4			6-8 ft. - Black fine to coarse sand, gravel, and cinder fill, wet to 7.5 ft.; 7.5-8 ft. Black peat and organic silt (meadow mat), wet.		
8		10"	3,3,2,2,			8-10 ft. - Brown to dark brown same as previous, very moist.		
10		12"	3,3,3,4			10-12 ft. - Same as previous to 11.5 ft., wet; 11.5-12 ft. Medium gray clayey silt and fine sand, wet.		
12								

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300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-13	
Project: Focused Remedial Investigation					
Date Started: 8/12/96	Date Completed: 8/12/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA		From:	-To:
Boring Depth: 16 ft.	Ground Surface Elevation: 4.27	Inner Casing: NA			
Initial GW Level: 3.0 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		14"	8,11,11,13	2		12-14 ft. - Medium to dark gray poorly sorted fine sand, some silt, wet.		NA
14		18"	10,10,27,13	3		14-16 ft. - Same as previous to 15.5 ft., from 14-15.5 ft. the sand is micaceous and grading siltier with depth.; 15.5-16 ft. Medium reddish gray clayey silt/silty clay, occasional lenses of fine sand, moist to damp.		
16								
18								
20								
22								
24								

ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-14	
Project: Focused Remedial Investigation					
Date Started: 8/7/96	Date Completed: 8/7/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA		From:	-To:
Boring Depth: 20 ft.	Ground Surface Elevation: 7.44 ft.	Inner Casing: NA			
Initial GW Level: 5.5 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
0		20"	3,4,4,4	0		0-2 ft. - Orange-brown fine sand fill, little silt, trace fine gravel, dry to damp, to 1.0 ft.; 1-2 ft. Dark reddish-brown and green silt and fine to medium sand fill, trace fine angular gravel, moist.		NA
2		14"	4,5,5,5	0		2-4 ft. - Same as previous, moist.		
4		24"	5,5,5,5	0		4-6 ft. - Same as previous, becoming wet at 5.5 ft.		
6		24"	6,8,10,12	0		6-8 ft. - Same as previous, wet.		
8		16"	8,6,5,3	0		8-10 ft. - Same as previous, wet to 9.5 ft.; 9.5-10 ft. Dark brown peat, some organic silt (meadow mat), moist.		
10		0"	3,3,3,3			10-12 ft. - No recovery.		
12								

ERM

300 Phillips Boulevard, Suite 200
Ewing, New Jersey 08618

Client: Standard Chlorine Chemical Company, Inc.		WO#: L7905.03.01		Boring/Well: SB-14	
Project: Focused Remedial Investigation					
Date Started: 8/7/96	Date Completed: 8/7/96	Screen: NA		From:	-To:
Logged By: F. Nemec	Checked By:	Pack: NA		From:	-To:
Drilling Co.: JCA	Driller: S. Berger	Seal: NA		From:	-To:
Method: Mud Rotary	Equipment: CME Truck Rig	Grout: NA		From:	-To:
Boring Depth: 20 ft.	Ground Surface Elevation: 7.44 ft	Inner Casing: NA			
Initial GW Level: 5.5 ft.	GW Level: NA Time/Date NA	Outer Casing/Stick Up: NA			

Depth	Sample	Recovery	Blow Count	Headspace ppm	Lithology	Description	Remarks	Well Construction
12		16"	2,1,9,10	3		12-14 ft. - Dark gray-brown peat, some organic silt (meadow mat) to 13.5 ft.; 13.5-14 ft. Light greenish-gray fine sand, little silt, wet.		NA
14		16"	8,10,11,12	2		14-16 ft. - Same as previous to 15.5 ft; 15.5 - 16 ft. Light reddish-gray fine to medium sand, poorly sorted, some silt, very moist to wet.		
16		24"	7,8,12,8	3		16-18 ft. - Light reddish-brown fairly well-sorted fine to medium sand, little silt, trace fine rounded gravel, wet.		
18		18"	8,12,16,20	2		18-20 ft. - Same as previous to 19 ft.; 19-20 ft. Medium brown clayey silt/silty clay with trace fine sand lenses, very moist.		
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22								
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KEY ENVIRONMENTAL, INC.
SUPPLEMENTAL REMEDIAL INVESTIGATION
(1999)

KEY ENVIRONMENTAL INCORPORATED	Site ID: SC-SB15
	Contractor: JCA Associates
	Consulting Firm: Key Environmental
	Logged By: TEJ

Location: Standard Chlorine Chemical Co.	
Ground Surface Elevation (ft-msl): 5.37'	
Datum: Mean Sea Level	
Date(s): 01/14/99 - 01/14/99	

Type: Soil Boring

Drilling Method: Hollow Stem Auger

Well Construction Materials::
N/A

Riser Casing:
N/A

Screens:
N/A

SUPPLEMENTAL REMEDIAL INVESTIGATION
STANDARD CHLORINE CHEMICAL CO.
KEARNY, NEW JERSEY

Elevation (ft-msl)	Depth (ft-bgs)	Sample No.	Blow Count	USCS Code	PID (ppm)
				FI	
		SB15-S1	5, 12		0 ppm
		SB15-S2	14, 17, 18, 22		0 ppm
0		SB15-S3	2, 2, 4, 4		0 ppm
		SB15-S4	5, 9, 6, 9		0 ppm
		SB15-S5	1, 1, 3, 2	PT	0 ppm
	10	SB15-S6	1, 3, 3, 6	MH	0 ppm
		SB15-S7	9, 13, 13, 16	SM	0 ppm
-10		SB15-S8	3, 5, 12, 15		0 ppm
		SB15-S9	11, 15, 17, 14	ML	0 ppm
	20				

Material Description

- Auger to 1', brown silty SAND, f gravel.
- Red sandy SILT, some f-m gravel, moist.
- Red sandy SILT, yellow and black f-m gravel, wet.
- Red sandy SILT, yellow and black f-m gravel, wet.
- Gray green f-c SAND, some silt.
- Gray green SAND and SILT, some f gravel, yellow silty nodules.
- Gray green SAND and SILT, some f gravel, yellow silty nodules.
- Dark brown SILT, some sand, vegetative matl present, H2S noted.
- Gray green sandy SILT, grades to clayey SILT at base.
- Gray to black f-m SAND, some silt, trace gravel.
- Gray stained black f-m SAND, little silt, trace f gravel.
- Gray stained black f-m SAND, little silt, trace f gravel.
- Red brown sandy SILT, trace clay.

Borehole Construction

KEY ENVIRONMENTAL INCORPORATED	Site ID: SC-SB16	Location: Standard Chlorine Chemical Co.
	Contractor: JCA Associates	Ground Surface Elevation (ft-msl): 5.01'
	Consulting Firm: Key Environmental	Datum: Mean Sea Level
	Logged By: TEJ	Date(s): 01/14/99 - 01/14/99

Type: Soil Boring	Riser Casing: N/A
Drilling Method: Hollow Stem Auger	Screens: N/A
Well Construction Materials:: N/A	SUPPLEMENTAL REMEDIAL INVESTIGATION STANDARD CHLORINE CHEMICAL CO. KEARNY, NEW JERSEY

Elevation (ft-msl)	Depth (ft-bgs)	Recovery	Sample No.	Blow Count	USCS Code	PID (ppm)	Graphic Log	Material Description	Borehole Construction
					FI			Auger 1' frozen gravel, brown gray f-m SAND, f gravel and green sand present.	
			SB16-S1	5 7		0 ppm		Brown gray f-m SAND, no green sand/gravel present, wet at 2'.	
			SB16-S2	3 5 9 9		0 ppm		Brown gray f-c SAND, some f-m gravel, wet.	
0			SB16-S3	12 12 14 14		0 ppm		Red-brown f-c SAND, some f gravel, yellow staining on gravel.	
			SB16-S4	4 4 4 3		0 ppm		Dark brown sandy SILT, with vegatative matl present.	
			SB16-S5	3 2 2 3	PT	0 ppm		Dark brown sandy SILT, with vegatative matl present.	
	10		SB16-S6	1 2 3 3				Dark brown sandy SILT, with vegatative matl present.	
					ML	0 ppm		Gray green sandy SILT, some f sand, little clay.	
			SB16-S7	6 10 14 15	SM	0 ppm		Gray brown f-m SAND, some silt, grades to f-c SAND at base.	
-10			SB16-S8	2 7 13 14		0 ppm		Gray brown f-c SAND, some f gravel.	
			SB16-S9	9 10 12 11				Gray brown f-c SAND, some f gravel.	
					CL	0 ppm		Brown to red varved clayey SILT, some f sand.	
	20								

KEY ENVIRONMENTAL INCORPORATED	Site ID: SC-MW-16L	Location: Standard Chlorine Chemical Co.
	Contractor: JCA Associates	Ground Surface Elevation (ft-msl): 8.00'
	Consulting Firm: Key Environmental	Datum: Mean Sea Level
	Logged By: TEJ	Date(s): 01/13/99 – 01/18/99

Type: Well

Drilling Method: Hollow Stem Auger & Fluid Rotary

Well Construction Materials::

type	fm	to
Bentonite Grout	0.00'	10.40'
Bentonite Pellets	10.40'	12.33'
Sand Filter	12.33'	18.17'
Bentoninte Pellets	18.17'	19.00'

Riser Casing:
type: PVC dia: 2.00in fm: -0.2' to: 13.20'

Screens:
type: Slotted size: 0.010in dia: 2.00in fm: 13.17' to: 18.17'

SUPPLEMENTAL REMEDIAL INVESTIGATION
STANDARD CHLORINE CHEMICAL CO.
KEARNY, NEW JERSEY

Elevation (ft-msl): 0, –10
Depth (ft-bgs): 10, 20

Sample No.	Blow Count	USCS Code	PID (ppm)
16L-S1	1 3 7 7	FI	0 ppm
16L-S2	3 3 3 5		0 ppm
16L-S3	5 9 27 13		0 ppm
16L-S4	3 4 2 3		0 ppm
16L-S5	3 3 1 1		0 ppm
16L-S6	4 3 4 4	PT	0 ppm
16L-S7	2 3 7 8	SW	0 ppm
16L-S8	9 12 14 17		0 ppm
16L-S9	11 18 15 11		0 ppm
16L-S10	6 8	ML	0 ppm

Material Description

Dark brown sandy SILT, roots/vegatative material.

Red brown silty f-m SAND, and f-m gravel, glass frags, moist.

Red brown silty f-m SAND, and f-m gravel, red sandstone rock frags, wet.

Brown f-c SAND, little f gravel, trace silt, black

organic staining present along horizontal seams, wet.

Red brown f-c SAND, and gravel, some silt, wet.

Brown f-m SAND, some f gravel, little silt.

Black sandy SILT, with vegatative matl present, (meadow mat).

Black sandy SILT, with vegatative matl present, (meadow mat).

Brown f-m SAND, some silt, some f-m gravel.

Brown f-m SAND, some silt, some f-m gravel.

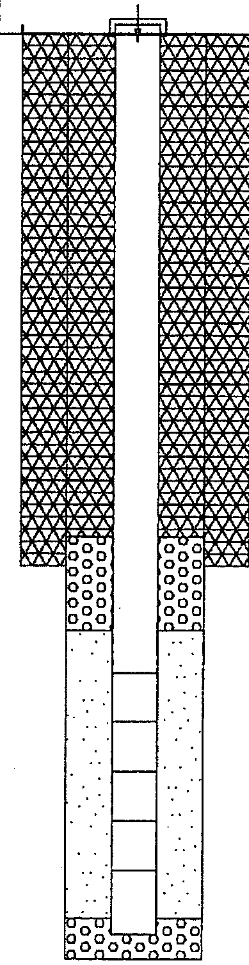
Gray brown f-m SAND, little silt, trace f gravel.

Gray f-m SAND, little silt.

Red brown clayey SILT, some f sand, varved.

Well Construction

MP. EL. 7.82



KEY ENVIRONMENTAL INCORPORATED	Site ID: SC-MW-17L
	Contractor: JCA Associates
	Consulting Firm: Key Environmental
	Logged By: TEJ
Location: Standard Chlorine Chemical Co.	Ground Surface Elevation (ft-msl): 4.13'
Datum: Mean Sea Level	Date(s): 01/13/99 – 01/19/99

Type: Well

Drilling Method: Hollow Stem Auger & Fluid Rotary

Well Construction Materials::

Type	fm	to
type: Bentonite Grout	fm: 0.00'	to: 10.50'
type: Bentonite Pellets	fm: 10.50'	to: 12.50'
type: Sand Filter #00	fm: 12.50'	to: 13.00'
type: Sand Filter #0	fm: 13.00'	to: 16.66'

Riser Casing:
type: PVC dia: 2.00in fm: -0.3' to: 13.66'

Screens:
type: Slotted size: 0.010in dia: 2.00in fm: 13.66' to: 16.66'

SUPPLEMENTAL REMEDIAL INVESTIGATION
STANDARD CHLORINE CHEMICAL CO.
KEARNY, NEW JERSEY

Elevation (ft-msl)	Depth (ft-bgs)	Recovery	Sample No.	Blow Count	USCS Code	PID (ppm)	Graphic Log
			MW17-S1	2, 2, 2, 2	FI	0 ppm	
			MW17-S2	5, 5, 6, 7		0 ppm	
0			MW17-S3	8, 8, 3, 7		0 ppm	
			MW17-S4	6, 7, 6, 2		0 ppm	
			MW17-S5	7, 5, 7, 8		0 ppm	
	10		MW17-S6	48, 19, 7, 6	PT	0 ppm	
			MW17-S7	7, 8, 10, 10	SM, SM	0 ppm	
-10			MW17-S8	10, 12, 19, 25		79 ppm	
			MW17-S9	4, 4, 6, 7	CL	78 ppm	
	20						
-20							

Material Description

Med brown sandy SILT, roots/veg. matl, silty SAND, some clay.

Brown f-c SAND and SILT, trace clay.

Brown f-c GRAVEL, some f-c SAND, brick frags.

Black f-c SAND and gravel, trace silt, gravel is composed of well rounded white quartzite, brick frags, wet.

Brown red silty f-m SAND, some f gravel, tr clay, roots and veg matl.

Brown f-m silty SAND, some f gravel, brick frags, wet.

Brown f-m silty SAND, some f gravel, brick frags, dark brown f-m silty SAND, veg matl, some f gravel, light brown to gray silty SAND, some clay, wet.

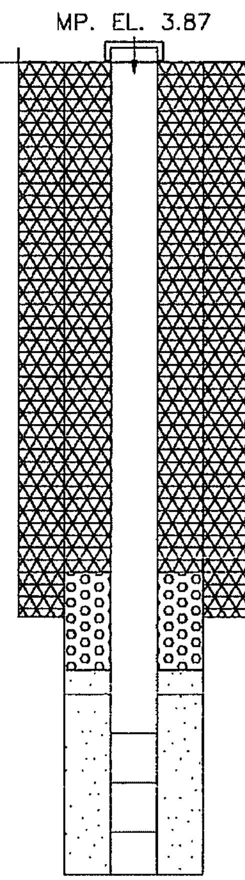
Brown f-c SAND, little silt, trace f gravel.

Brown f-c SAND, little silt, trace f gravel, odor noted, NAPL in mud tub.

Brown f-c SAND, little silt, trace f gravel.

Brown silty CLAT to clayey silt, trace f sand.

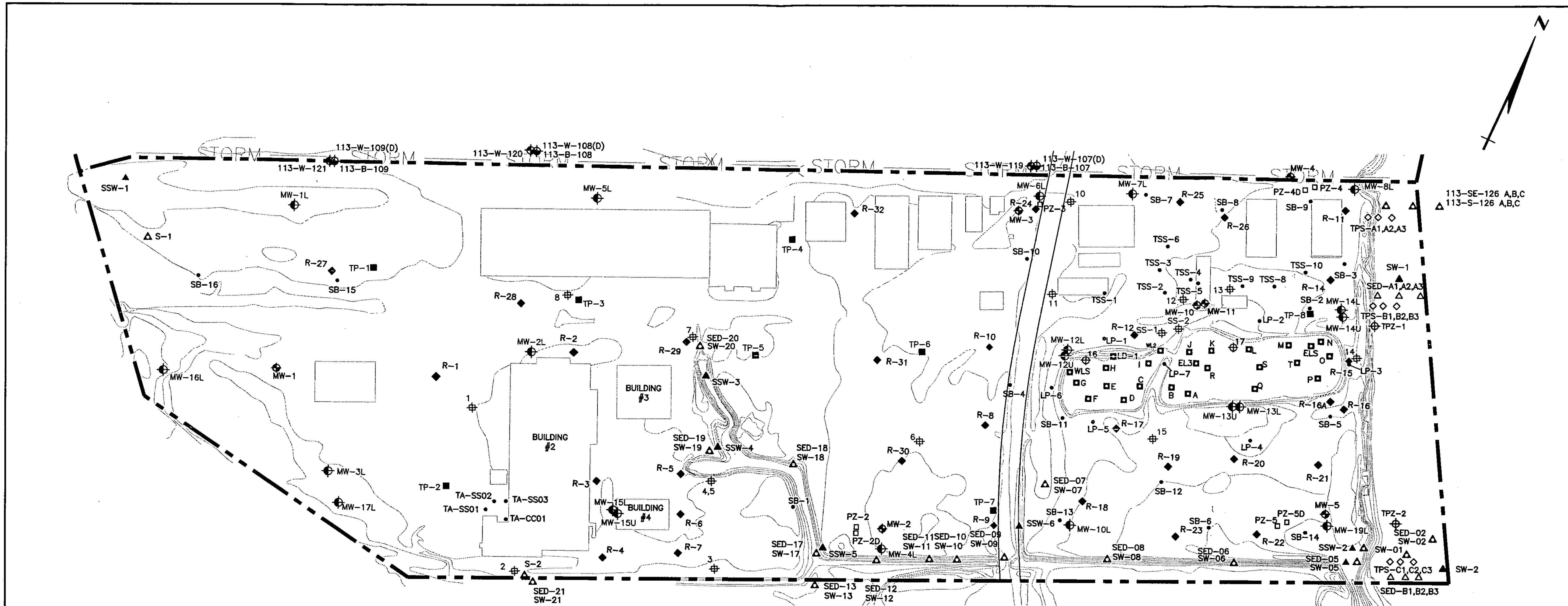
Well Construction



APPENDIX E

HISTORICAL ANALYTICAL RESULTS

APPENDIX E
HISTORICAL REMEDIAL INVESTIGATION DATA
TABLE OF CONTENTS



LEGEND

Symbol	Description
— · —	PROPERTY BOUNDARY
—x—	FENCE
—5—	GROUND SURFACE ELEVATION CONTOURS
	BUSH / TREELINE
	EXISTING STRUCTURE
	UTILITY POLE
× 5.5	SPOT ELEVATION
8	SURFACE SOIL SAMPLE LOCATION (WESTON)
SS-1	SURFACE SOIL SAMPLE LOCATION (WESTON)
B, LD-1, WL2, ELS	LAGOON SAMPLES LOCATION (WESTON)
LP-5	SOIL BORING SAMPLE LOCATION (WESTON)
SB-3	SOIL BORING SAMPLE LOCATION (ERM)
SS-224	SURFACE SOIL SAMPLE LOCATION (BROWN & CALDWELL)
TSS-1	TANK SURFACE SOIL SAMPLE LOCATION (WESTON)
TA-SS01	SOIL SAMPLE LOCATION (KEY)
TA-CC01	PCB/SOIL SAMPLE LOCATION (KEY)
TP-1	TEST PIT LOCATION (WESTON)
TPS-A1,A2,A3	RAPID OPTICAL SCREENING TOOL BORING LOCATION (KEY)
MW-1L	MONITORING WELL LOCATION (ERM)
PZ-3	PIEZOMETER LOCATION
113-W-121	SHALLOW GROUNDWATER MONITORING WELL LOCATION (BROWN & CALDWELL)
MW-1	MONITORING WELL/SOIL BORING LOCATION (WESTON)
TPZ-1	TEMPORARY MONITORING WELL LOCATION (WESTON)
TPS-A1,A2,A3	SEDIMENT SAMPLE LOCATION (ESI)
SED-A1,A2,A3	SEDIMENT SAMPLE LOCATION (ERM)
SW-4	SURFACE WATER SAMPLE LOCATION (ERM)
SSW-1	SURFACE WATER / SEDIMENT SAMPLE LOCATION (WESTON)
SED-04 SW-04	SEDIMENT AND SURFACE WATER SAMPLE LOCATION (USEPA)
113-SE-126 A,B,C 113-S-126 A,B,C	SURFACE WATER AND SEDIMENT SAMPLE LOCATION (BROWN & CALDWELL)
18	SEDIMENT SAMPLE LOCATER (E.C. JORDON)

0 150 300 FEET

REV #	DATE	DESCRIPTION	APPD

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: WAA	DATE: 02/26/08
CHKD: RJH	DATE: 02/26/08
APPD: JSZ	DATE: 02/26/08
SCALE: AS SHOWN	

KEY ENVIRONMENTAL INCORPORATED

PHASE II SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN
KEARNY, NEW JERSEY

HISTORICAL SAMPLE LOCATIONS

PROJECT NO: 08-613

FIGURE E-1

y:\kearny\08-613\remedial investigation\figure e-1.dwg Last Saved By: Scorner 3/5/2008 11:14 AM Plotted By: Shelly Corner 3/10/2008 8:27 AM Scale: 1:1

E.1 Lagoon Sludge Data

1983-1984 Hydrogeologic Investigation

Table 1-1

Summary of Soil Sample Metals Analyses Results
SCCC, Kearny, NJ (1983)

Description	pH	Total Chromium		EP Toxicity Test Leachate							
		Chromium mg/kg	Hexavalent Chromium mg/kg	As mg/l	Ba mg/l	Cd mg/l	Cr mg/l	Pb mg/l	Hg mg/l	Se mg/l	Ag mg/l
1D: 5-7' fill	NA	150	ND	ND	0.81	ND	ND	ND	ND	ND	ND
1D: Meadow mat	7.7	3	ND	ND	0.56	ND	ND	ND	ND	ND	ND
1D: 15-16' sand	NA	6	ND	ND	0.17	ND	ND	ND	ND	ND	ND
2D: 5-7' fill	12.3	31,100	14.4	ND	0.68	ND	16	ND	ND	.018	ND
2D: Meadow mat	11.7	16,500	0.7	ND	0.019	ND	3.23	ND	ND	ND	ND
2D: 13' silt	NA	82	ND	ND	0.34	ND	ND	ND	ND	ND	ND
2D: 13-15' sand	NA	48	ND	ND	0.15	ND	ND	ND	ND	ND	ND
3D: 2-3' fill	12.2	31,000	5.7	ND	0.62	ND	5.44	ND	ND	.017	ND
3D: 5-7' fill	11.4	745	ND	ND	0.51	ND	ND	ND	ND	ND	ND
3D: Meadow mat	8.2	9,900	ND	ND	0.54	ND	0.87	ND	ND	ND	ND
3D: 12-13' sand	NA	10	ND	ND	0.16	ND	ND	ND	ND	ND	ND
4D: Meadow mat	8.1	770	ND	ND	0.46	ND	ND	ND	ND	ND	ND
4D: 15-17' sand	NA	49	ND	ND	0.19	ND	ND	ND	ND	ND	ND
4D: 15-17' sand	5.7	36	ND	ND	0.19	ND	ND	ND	ND	ND	ND
5D: 5-7' fill	12.2	18,000	38.0	ND	0.43	ND	43.6	ND	ND	.013	ND
5D: Meadow mat	8.7	7,600	ND	ND	0.78	ND	3.08	ND	ND	ND	ND
5D: 17-19' sand	NA	12	ND	0.051	0.07	ND	0.41	ND	ND	ND	ND
Lagoon 1	NA	7,700	ND	ND	0.30	ND	0.41	ND	ND	ND	ND
Lagoon 2	NA	6,400	ND	ND	0.11	ND	ND	ND	ND	ND	ND

ND = Not Detected
NA = Not Analyzed

1985 Phase II Dioxin Site Investigation

Table 1-3

Results of Phase II Dioxin Investigation
SCCC, Kearny, NJ

Sample Collection Date: 7 May 1985
Sample Analysis Date(s): 15, 16, and 17 May; 16 and 17 June 1985 Environmental Testing and Certification Corporation, Edison, New Jersey

Sample Number	2,3,7,8-TCDD (ppb[1])		Sample Type
	Measured	DL[2]	
1	ND[3]	0.15	Surface soil
2	ND	0.60	Surface soil
3	ND[6]	0.037	Surface soil
4	ND	0.62	Surface soil
5	ND	0.42	Duplicate of Sample 4
6	ND	0.54	Surface soil
7	ND	0.67	Sediment
8	ND	0.23	Surface soil
9	ND	0.25	Field/equipment blank
10	ND	0.29	Surface soil
11	ND	0.16	Surface soil
12	0.52[4]	--	Surface soil
13	ND	0..70	Surface soil
14	ND	0.62	Surface soil
15	ND	0.29	Surface soil
16	59.5[4]	--	Sediment
17	--[5]	--	Sediment
18	ND	0.11	Equipment blank
19	4.90	--	Proficiency

1 ppb = Parts per billion, i.e., µg/kg of soil or sediment on an "as is" basis.
2 DL = Method detection limit which is the concentration at which there is a 99 percent confidence level that the compound is present. ETC only reports detection limits for non-detect results.
3 ND = Not detected.
4 Repeat analysis, required for quality assurance review.
5 Repeat analysis unsuccessful - failed surrogate recovery.
6 Results of re-analysis by California Analytical Laboratories of West Sacramento, California, on 16 September 1985.

1985-1988 Stage I, II, and III Dioxin Investigation

Table 1-4

Summary of 2,3,7,8-TCDD Concentrations in Soil Samples Collected in August 1985 SCCC, Kearny, NJ

Sample	Depth (ft)	Detection Limit 2,3,7,8-TCDD (µg/kg)
Riverbank		
RB-2A	0-0.5	<0.07
RB-2C	1.5-2.0	<0.16
RB-3A	0-0.5	<0.10
RB-3B	1.5-2.0	<0.23
Lagoon Perimeter		
LB-1A	0-0.5	<0.05
LP-1B	1.5-1.7	<0.12
LP-2	0.5-WT	<0.67
LP-3A	0-0.5	<0.02
LP-3C	3.5-4.0	<0.17
LP-4A	0-0.5	<0.16
LP-4B	6.0-6.5	<0.15
LP-5A	0-0.5	<0.10
LP-5D	3.6-4.1	<0.01
LP-6A	0-0.5	<0.03
LP-6B	0.5-WT	<0.05
LP-7A	0-0.5	<0.09
LP-7B	1.7-2.1	<0.38
Lagoon		
LD-1	--	3.1/9.6[b]
EL-1	0-0.5	<0.10
EL-1D	0-0.5	<0.10
EL-3	0-0.5	62.1
WL-2	0-0.5	<75.5[a]/55.6[b]
WL-2D	0-0.5	45.2
Other Areas		
10A	0-0.5	5.0
12	1.5-2.0	<0.23
13	1.5-2.0	<0.13
NJ-01	--	<0.16
DP-1	--	<0.07

Note: Samples analyzed by Cal. Analytical. A, B, C, D indicate depths at the Riverbank, Lagoon Perimeter and Other Area locations. El-ID is a duplicate sample.

WT = Water table.

[a] = Chemical interferences.

[b] = Duplicate analyses.

Table 1-5

Stage I Analysis Summary
SCCC, Kearny, NJ

WESTON Sample Number	TCDD Measured (ppb)	TCDD Detection Limit (ppb)
Method Blank	ND	0.13
Method Blank	ND	0.092
S-1-SS	ND	0.41
R-1-SS	15.3	--
N-1-SS	ND	0.62
N-1-SS Dup	ND	0.49
L-1H-SS	0.71	--
E-1	0.85	--
I-1H	ND	1.1
P-1-SS	ND	0.60
O-1-SS	ND	0.33
O-FP-SS	ND	0.53
O-FP-SS-NS	9.2	--
B-1	8.2	--
J-1H	11.2	--
STDCL-1A	ND	0.25
STDCL-1B	9.2	--
C-2H-SS	0.23	--
C-2H-SS Dup	ND	0.45
M-1-SS	ND	0.36
K-1H-SS	69.6	--
O-1-SS	ND	0.56
O-1-SS-NS	8.2	--
O-1D-SS	ND	0.26
Method Blank	ND	0.12
Method Blank	ND	0.20
SS-1	ND	1.1
SS-2	ND	1.4
F-1	*	*
G-1	2.8	--
H-1	ND	0.73
D-1	ND	0.90
T-1-SS	ND	0.23
A-1	2.6	--
Method Blank	ND	0.034
T-2-SS	ND	0.21
S-2-SS	ND	0.076

Table 1-5 (continued)

WESTON Sample Number	TCDD Measured (ppb)	TCDD Detection Limit (ppb)
R-2-SS	62.1	--
E-2-SS	31.9	--
N-2-SS	ND	0.18
O-2-SS	ND	0.028
P-2-SS	ND	0.11
C-1	19.5	--
C-1 Dup	16.3	--
I-2-SS	3.2	--
I-3-SS	38.4	--
I-4-SS	6.2	--
D-2-SS	ND	0.053
G-2-SS	ND	0.12
B-2-SS	ND	0.11
M-2-SS	ND	0.084
K-2-SS	2.7	--
H-2-SS	ND	0.13
A-2-SS	ND	1.5
O-2D-SS	ND	0.089
STDCL-2B	3.5	--
Method Blank	ND	0.087
I-1H NS	1.3	--
Method Blank	ND	0.19
Method Blank	9.4	--
WS-1	9.6	--
WS-2	ND	0.61
Method Blank	ND	0.17
Method Blank NS	9.6	--
RS-1	0.14	--
F-4-SS	4.3	--
J-2-SS	*	*
J-3-SS	*	*
J-4-SS	*	*

ND = Not Detected.

* = Results of this sample analysis not reported due to crystallization of liquid phase following extraction.

Note: The samples collected were lagoon sediments except for the following: STDCL indicates EPA performance test; SS-1, SS-2 were surface soils; WS-1 was a wipe sample, foundation; WS-2 was a wipe sample, blank.

Source: WESTON, 1987

Table 1-6

Stage II and III Analysis Summary
SCCC, Kearny, NJ

WESTON Sample Number	2,3,7,8-TCDD Measured (ppb)	2,3,7,8-TCDD Detection Limit (ppb)
Method Blank	ND	0.016
Method Blank	ND	1.6
MBNS	0.85	--
MBNS	0.83	--
R-3-SS	190	--
R-4-SS	46	--
R-4-SS Dup	43	--
E-3-SS	2.9	--
E-3-SS NJ	10.3	--
E-4-SS	1.2	--
F-1	2.3	--
O-2-SS	ND	0.35
K-4-SS	3.7	--
J-3-SS	268	--
J-3-SS	237	--
J-3-SS NJ	273	--
J-4-SS	148	--
K-3-SS	6.1	--
J-2-SS	*	*
STDCL-4B	6.8	--
STDCL-3A	9.9	--

ND = Not Detected.
* = Results of this sample analysis not reported due to crystallization of liquid phase following extraction.

Note: The samples collected were lagoon sediments; STDCL indicates EPA performance tests; MBNS was a method blank; NJ is a samples split with NJDEP.

Source: WESTON, 1988

1990-1993 Remedial Investigation

TABLE 5-1
SUMMARY OF LAGOON SAMPLING DATA
VOLATILES AND SEMIVOLATILES
SCCC, KEARNY, NJ

LAB NUMBER	HA3591		HA3592		HA3593		HA3594		HA3597		HA3598	
SAMPLE NUMBER	WLS-1		WLS-2		ELS-1		ELS-2		WLS-1		ELS-1	
MEDIUM	SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		WATER		WATER	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
VOC Compound (ug/kg)									(ug/L)			
Benzene	ND	15000	BMDL.	4100	896	670	23400	6700	ND	4.4	ND	22.0
Chlorobenzene	ND	20000	ND	5600	ND	910	ND	9100	BMDL.	6.0	77.6	30.0
Ethylbenzene	39600	24000	15200	6700	2580	1100	43300	11000	ND	7.2	ND	36.0
Methylene Chloride	21500	9300	6090	2600	438	420	5330	4200	ND	2.8	ND	14.0
Toluene	33800	20000	15300	5600	3050	910	63100	9100	ND	6.0	BMDL.	30.0
BNA Compound (ug/kg)									(ug/L)			
Acenaphthene	6070000	130000	2090000	170000	529000	5800	3650000	290000	ND	1.9	BMDL.	1.9
Anthracene	1700000	130000	190000	170000	180000	5800	BMDL.	290000	ND	3.6	ND	1.9
Benzo(a)anthracene	BMDL.	520000	ND	720000	ND	24000	ND	1200000	ND	8.0	ND	8.0
Benzo(b)fluoranthene	BMDL.	320000	ND	440000	ND	15000	ND	730000	ND	4.9	ND	4.9
1,2-Dichlorobenzene	ND	130000	ND	170000	22100	5800	ND	290000	BMDL.	1.9	1.9	1.9
1,3-Dichlorobenzene	ND	130000	ND	170000	ND	5800	ND	290000	4.6	1.9	10.2	1.9
1,4-Dichlorobenzene	ND	290000	ND	400000	40000	13000	ND	660000	10.5	4.5	23.0	4.5
Fluoranthene	903000	150000	BMDL.	200000	115000	6700	ND	330000	ND	2.2	ND	2.2
Fluorene	5150000	130000	717000	170000	587000	5800	604000	290000	BMDL.	1.9	ND	1.9
Hexachlorobenzene	ND	130000	ND	170000	93500	5800	ND	290000	BMDL.	1.9	ND	1.9
Naphthalene	2040000000	110000	300000000	150000	815000000	4800	25200000000	240000	12.7	1.6	3.1	1.6
Phenanthrene	5320000	360000	628000	500000	715000	16000	BMDL.	820000	BMDL.	5.5	BMDL.	5.5
1,2,4-Trichlorobenzene	ND	130000	ND	170000	ND	5800	ND	290000	7.1	1.9	18.5	1.9
Pyrene	663000	130000	ND	170000	32200	5800	ND	290000	ND	1.9	ND	1.9
2,4-Dimethylphenol	21900000	180000	2770000	250000	17600000	8200	3490000	410000	11.1	2.8	154.0	2.8
Phenol	1210000	100000	12100000	140000	4220000	4500	14100000	230000	74.3	1.5	24.2	1.5
Phenolics	31.5	10.73	9.6	2.98	12.6	4.88	1.29	0.48	0.15	0.05	1.12	0.05

ND - Not detected

BMDL - Present below detection limit, estimated concentration not reported by laboratory

STAN-CL2\LAGSMPL.WK3

TABLE 5-1 (Continued)
SUMMARY OF LAGOON SAMPLING DATA
METALS
SCCC, KEARNY, NJ

LAB NUMBER / SAMPLE NUMBER / MEDIUM	HA3591 WLS-1 SEDIMENT		HA3592 WLS-2 SEDIMENT		HA3593 ELS-1 SEDIMENT		HA3594 ELS-2 SEDIMENT		HA3597 WLS-1 WATER		HA3598 ELS-1 WATER	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
Metals (mg/kg)									**(mg/L)**			
Antimony	ND	39.00	BMDL	11.00	BMDL	19.00	19.00	18.00	ND	0.0600	BMDL	0.0600
Arsenic	BMDL	33.00	BMDL	9.50	BMDL	3.10	5.10	3.00	ND	0.0100	BMDL	0.0100
Beryllium	ND	0.66	ND	0.19	ND	0.31	ND	0.30	ND	0.0010	ND	0.0010
Cadmium	BMDL	1.30	0.39	0.37	ND	0.62	BMDL	0.61	ND	0.0020	ND	0.0020
Chromium	200	6.60	521.00	1.90	767.00	3.10	2080.00	3.00	0.30	0.0100	2.8400	0.0100
Copper	480	6.60	66.00	1.90	200.00	3.10	64.00	3.00	ND	0.0100	0.0350	0.0100
Lead	970	49.00	1200.00	14.00	570.00	23.00	4270.00	23.00	BMDL	0.0750	0.3500	0.0750
Mercury	16	0.53	BMDL	0.15	4.50	0.11	3.10	0.24	BMDL	0.0002	0.0017	0.0002
Nickel	130	13.00	41.00	3.70	91.00	6.20	150.00	6.10	BMDL	0.0200	0.0220	0.0200
Selenium	BMDL	3.30	BMDL	0.94	ND	7.50	ND	7.50	ND	0.0050	ND	0.0050
Silver	BMDL	6.60	ND	1.90	ND	3.10	BMDL	3.00	ND	0.0100	ND	0.0100
Thallium	ND	6.60	ND	1.90	ND	16.00	ND	3.00	ND	0.0100	ND	0.0100
Zinc	ND	13.00	20.00	3.70	20.00	6.20	39.00	6.10	0.39	0.0200	0.3700	0.0200
Cyanide	58.70	3.33	98.70	0.93	12.58	1.50	14.30	1.50	ND	0.0250	ND	0.0250

ND - Not detected
BMDL - Present below detection limit, estimated concentration not reported by laboratory

STAN-CL2\LAGSMMET.WK3

E.2 Soil Data

1983-1984 Hydrogeologic Investigation

Table 1-1

Summary of Soil Sample Metals Analyses Results
SCCC, Kearny, NJ (1983)

Description	pH	Total Chromium: Chromium mg/kg	Total Chromium: Hexavalent Chromium mg/kg	EP Toxicity Test Leachate: As mg/l	Ba mg/l	Cd mg/l	Cr mg/l	Pb mg/l	Hg mg/l	Se mg/l	Ag mg/l
1D: 5-7' fill	NA	150	ND	ND	0.81	ND	ND	ND	ND	ND	ND
1D: Meadow mat	7.7	3	ND	ND	0.56	ND	ND	ND	ND	ND	ND
1D: 15-16' sand	NA	6	ND	ND	0.17	ND	ND	ND	ND	ND	ND
2D: 5-7' fill	12.3	31,100	14.4	ND	0.68	ND	16	ND	ND	.018	ND
2D: Meadow mat	11.7	16,500	0.7	ND	0.019	ND	3.23	ND	ND	ND	ND
2D: 13' silt	NA	82	ND	ND	0.34	ND	ND	ND	ND	ND	ND
2D: 13-15' sand	NA	48	ND	ND	0.15	ND	ND	ND	ND	ND	ND
3D: 2-3' fill	12.2	31,000	5.7	ND	0.62	ND	5.44	ND	ND	.017	ND
3D: 5-7' fill	11.4	745	ND	ND	0.51	ND	ND	ND	ND	ND	ND
3D: Meadow mat	8.2	9,900	ND	ND	0.54	ND	0.87	ND	ND	ND	ND
3D: 12-13' sand	NA	10	ND	ND	0.16	ND	ND	ND	ND	ND	ND
4D: Meadow mat	8.1	770	ND	ND	0.46	ND	ND	ND	ND	ND	ND
4D: 15-17' sand	NA	49	ND	ND	0.19	ND	ND	ND	ND	ND	ND
4D: 15-17' sand	5.7	36	ND	ND	0.19	ND	ND	ND	ND	ND	ND
5D: 5-7' fill	12.2	18,000	38.0	ND	0.43	ND	41.6	ND	ND	.013	ND
5D: Meadow mat	8.7	7,600	ND	ND	0.78	ND	3.08	ND	ND	ND	ND
5D: 17-19' sand	NA	12	ND	0.051	0.07	ND	0.41	ND	ND	ND	ND
Lagoon 1	NA	7,700	ND	ND	0.30	ND	0.41	ND	ND	ND	ND
Lagoon 2	NA	6,400	ND	ND	0.11	ND	ND	ND	ND	ND	ND

ND = Not Detected
NA = Not Analyzed

1985 Phase II Dioxin Site Investigation

Table 1-3

Results of Phase II Dioxin Investigation
SCCC, Kearny, NJ

Sample Collection Date: 7 May 1985
Sample Analysis Date(s): 15, 16, and 17 May; 16 and 17 June 1985 Environmental Testing and Certification Corporation, Edison, New Jersey

Sample Number	2,3,7,8-TCDD (ppb[1])		Sample Type
	Measured	DL[2]	
1	ND[3]	0.15	Surface soil
2	ND	0.60	Surface soil
3	ND[6]	0.037	Surface soil
4	ND	0.62	Surface soil
5	ND	0.42	Duplicate of Sample 4
6	ND	0.54	Surface soil
7	ND	0.67	Sediment
8	ND	0.23	Surface soil
9	ND	0.25	Field/equipment blank
10	ND	0.29	Surface soil
11	ND	0.16	Surface soil
12	0.52[4]	--	Surface soil
13	ND	0..70	Surface soil
14	ND	0.62	Surface soil
15	ND	0.29	Surface soil
16	59.5[4]	--	Sediment
17	--[5]	--	Sediment
18	ND	0.11	Equipment blank
19	4.90	--	Proficiency

[1] ppb = Parts per billion, i.e., µg/kg of soil or sediment on an "as is" basis.
[2] DL = Method detection limit which is the concentration at which there is a 99 percent confidence level that the compound is present. ETC only reports detection limits for non-detect results.
[3] ND = Not detected.
[4] Repeat analysis, required for quality assurance review.
[5] Repeat analysis unsuccessful - failed surrogate recovery.
[6] Results of re-analysis by California Analytical Laboratories of West Sacramento, California, on 16 September 1985.

1985-1988 Stage I, II, and III Dioxin Investigation

Table 1-4

Summary of 2,3,7,8-TCDD Concentrations in Soil Samples Collected in August 1985 SCCC, Kearny, NJ

Sample	Depth (ft)	Detection Limit 2,3,7,8-TCDD (µg/kg)
Riverbank		
RB-2A	0-0.5	<0.07
RB-2C	1.5-2.0	<0.16
RB-3A	0-0.5	<0.10
RB-3B	1.5-2.0	<0.23
Lagoon Perimeter		
LB-1A	0-0.5	<0.05
LP-1B	1.5-1.7	<0.12
LP-2	0.5-WT	<0.67
LP-3A	0-0.5	<0.02
LP-3C	3.5-4.0	<0.17
LP-4A	0-0.5	<0.16
LP-4B	6.0-6.5	<0.15
LP-5A	0-0.5	<0.10
LP-5D	3.6-4.1	<0.01
LP-6A	0-0.5	<0.03
LP-6B	0.5-WT	<0.05
LP-7A	0-0.5	<0.09
LP-7B	1.7-2.1	<0.38
Lagoon		
LD-1	--	3.1/9.6[b]
EL-1	0-0.5	<0.10
EL-1D	0-0.5	<0.10
EL-3	0-0.5	62.1
WL-2	0-0.5	<75.5[a]/55.6[b]
WL-2D	0-0.5	45.2
Other Areas		
10A	0-0.5	5.0
12	1.5-2.0	<0.23
13	1.5-2.0	<0.13
NJ-01	--	<0.16
DP-1	--	<0.07

Note: Samples analyzed by Cal. Analytical. A, B, C, D indicate depths at the Riverbank, Lagoon Perimeter and Other Area locations. El-ID is a duplicate sample.

WT = Water table.

[a] = Chemical interferences.

[b] = Duplicate analyses.

Table 1-5

Stage I Analysis Summary
SCCC, Kearny, NJ

WESTON Sample Number	TCDD Measured (ppb)	TCDD Detection Limit (ppb)
Method Blank	ND	0.13
Method Blank	ND	0.092
S-1-SS	ND	0.41
R-1-SS	15.3	--
N-1-SS	ND	0.62
N-1-SS Dup	ND	0.49
L-1H-SS	0.71	--
E-1	0.85	--
I-1H	ND	1.1
P-1-SS	ND	0.60
Q-1-SS	ND	0.33
O-FP-SS	ND	0.53
O-FP-SS-NS	9.2	--
B-1	8.2	--
J-1H	11.2	--
STDCL-1A	ND	0.25
STDCL-1B	9.2	--
C-2H-SS	0.23	--
C-2H-SS Dup	ND	0.45
M-1-SS	ND	0.36
K-1H-SS	69.6	--
O-1-SS	ND	0.56
O-1-SS-NS	8.2	--
O-1D-SS	ND	0.26
Method Blank	ND	0.12
Method Blank	ND	0.20
SS-1	ND	1.1
SS-2	ND	1.4
F-1	*	*
G-1	2.8	--
H-1	ND	0.73
D-1	ND	0.90
T-1-SS	ND	0.23
A-1	2.6	--
Method Blank	ND	0.034
T-2-SS	ND	0.21
S-2-SS	ND	0.076

Table 1-5 (continued)

WESTON Sample Number	TCDD Measured (ppb)	TCDD Detection Limit (ppb)
R-2-SS	62.1	--
E-2-SS	31.9	--
N-2-SS	ND	0.18
O-2-SS	ND	0.028
P-2-SS	ND	0.11
C-1	19.5	--
C-1 Dup	16.3	--
I-2-SS	3.2	--
I-3-SS	38.4	--
I-4-SS	6.2	--
D-2-SS	ND	0.053
G-2-SS	ND	0.12
B-2-SS	ND	0.11
M-2-SS	ND	0.084
K-2-SS	2.7	--
H-2-SS	ND	0.13
A-2-SS	ND	1.5
O-2D-SS	ND	0.089
STDCL-2B	3.5	--
Method Blank	ND	0.087
I-1H NS	1.3	--
Method Blank	ND	0.19
Method Blank	9.4	--
WS-1	9.6	--
WS-2	ND	0.61
Method Blank	ND	0.17
Method Blank NS	9.6	--
RS-1	0.14	--
F-4-SS	4.3	--
J-2-SS	*	*
J-3-SS	*	*
J-4-SS	*	*

ND = Not Detected.

* = Results of this sample analysis not reported due to crystallization of liquid phase following extraction.

Note: The samples collected were lagoon sediments except for the following: STDCL indicates EPA performance test; SS-1, SS-2 were surface soils; WS-1 was a wipe sample, foundation; WS-2 was a wipe sample, blank.

Source: WESTON, 1987

Table 1-6

Stage II and III Analysis Summary
SCCC, Kearny, NJ

WESTON Sample Number	2,3,7,8-TCDD Measured (ppb)	2,3,7,8-TCDD Detection Limit (ppb)
Method Blank	ND	0.016
Method Blank	ND	1.6
MBNS	0.85	--
MBNS	0.83	--
R-3-SS	190	--
R-4-SS	46	--
R-4-SS Dup	43	--
E-3-SS	2.9	--
E-3-SS NJ	10.3	--
E-4-SS	1.2	--
F-1	2.3	--
O-2-SS	ND	0.35
K-4-SS	3.7	--
J-3-SS	268	--
J-3-SS	237	--
J-3-SS NJ	273	--
J-4-SS	148	--
K-3-SS	6.1	--
J-2-SS	*	*
STDCL-4B	6.8	--
STDCL-3A	9.9	--

ND = Not Detected.
* = Results of this sample analysis not reported due to crystallization of liquid phase following extraction.

Note: The samples collected were lagoon sediments; STDCL indicates EPA performance tests; MBNS was a method blank; NJ is a samples split with NJDEP.

Source: WESTON, 1988

1991 Interim Remedial Measures Sampling

TA. [illegible] - 02

SUMMARY OF SOIL AND SEDIMENT CHARACTERIZATION
PREVIOUS INVESTIGATIONS
TOTAL AND HEXAVALENT CHROMIUM
SITE 116 - STANDARD CHLORINE CHEMICAL COMPANY

Sample ID	Date Collected	Collected By	Document* Reference	Sample Type	Units	Depth (ft bgs)	Total Cr	Cr(VI)
SSW/SED-5	1/91	Weston	9	Sediment	mg/kg	NR	12,600	NR
SED-1	1/91	Weston	9	Sediment	mg/kg	NR	3,440	NR
SED-2	1/91	Weston	9	Sediment	mg/kg	NR	100	NR
TP #1	5/93	Weston	12	Test pit	mg/kg	4	31,900	NR
TP #2	5/93	Weston	12	Test pit	mg/kg	1.5	1,740	NR
TP #3	5/93	Weston	12	Test pit	mg/kg	2	26,300	NR
TP #4	5/93	Weston	12	Test pit	mg/kg	2	34,900	NR
TP #5	5/93	Weston	12	Test pit	mg/kg	6	33,100	NR
TP #6	5/93	Weston	12	Test pit	mg/kg	2.5	30,400	NR
TP #7	5/93	Weston	12	Test pit	mg/kg	2	32,100	NR
TP #8	5/93	Weston	12	Test pit	mg/kg	3	32,600	NR
001	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	722	<2.7
002	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	17.5	<3
003	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	1,990	270
004	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	21.4	<3
005	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	733	8.2
006	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	2,000	16
007	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	2,520	13
008	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	1,490	15
009	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	2,540	110
010	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	529	8.6
011	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	579	<30
012	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	129	<3.6
013	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	1,100	7.3
014	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	2,240	13
015	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	520	3.4
016	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	769	12
017	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	511	3.8
018	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	224	3
031	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	9,900	<0.14
032	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	5,330	0.65
033	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	9,900	244

SUMMARY OF SOIL AND SEDIMENT CHARACTERIZATION
PREVIOUS INVESTIGATIONS
TOTAL AND HEXAVALENT CHROMIUM
SITE 116 - STANDARD CHLORINE CHEMICAL COMPANY

Sample ID	Date Collected	Collected By	Document* Reference	Sample Type	Units	Depth (ft bgs)	Total Cr	Cr(VI)
034	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	18,000	<0.11
035	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	11,000	0.39
036	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	6,460	<0.26
037	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	5,120	54
038	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	18,800	<0.23
039	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	11,500	195
040	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	7,050	<0.24
041	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	9,390	0.15
042	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	11,900	<0.12
043	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	8,570	<0.15
044	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	579	<0.26
045	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	95.7	<0.13
046	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	59.7	<0.14
047	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	142	<0.14
048	8/91	French & Parrello	8	Surface Soil	mg/kg	0-0.5	188	<0.28
001	8/91	French & Parrello	8	Sweep Sample	mg/kg	NA	623	<2.7
002	8/91	French & Parrello	8	Sweep Sample	mg/kg	NA	322	33
003	8/91	French & Parrello	8	Sweep Sample	mg/kg	NA	423	12
TPS-A1-1	1/00	ES	20	Sediment	mg/kg	1	3,207	ND
TPS-A1-5	1/00	ES	20	Sediment	mg/kg	5	9.5	ND
TPS-A1-10	1/00	ES	20	Sediment	mg/kg	10	24.7	ND
TPS-A2-1	1/00	ES	20	Sediment	mg/kg	1	3,197	ND
TPS-A2-5	1/00	ES	20	Sediment	mg/kg	5	930	73.1
TPS-A2-10	1/00	ES	20	Sediment	mg/kg	10	38.7	3.81
TPS-A3-1	1/00	ES	20	Sediment	mg/kg	1	1,280	ND
TPS-A3-5	1/00	ES	20	Sediment	mg/kg	5	257	4.29
TPS-A3-10	1/00	ES	20	Sediment	mg/kg	10	14.3	ND
TPS-B1-1	1/00	ES	20	Sediment	mg/kg	1	1,079	ND
TPS-B1-5	1/00	ES	20	Sediment	mg/kg	5	143	ND
TPS-B1-10	1/00	ES	20	Sediment	mg/kg	10	6.59	ND
TPS-B2-1	1/00	ES	20	Sediment	mg/kg	1	5,240	ND
TPS-B2-5	1/00	ES	20	Sediment	mg/kg	5	34.2	ND

1990-1993 Remedial Investigation

Table 5-4

Summary of Test Pit Analytical Data
Chromium
SCCC, Kearny, NJ

Test Pit Sample Location	Lab ID Number	Depth of Sample (ft)	Chromium (mg/kg)	Detection Limit
TP #1	HA3643	4.0	31900	1.9
TP #2	HA3632	1.5	1740	1.3
TP #3	HA3639	2.0	26300	1.6
TP #4	HA3636	2.0	34900	1.6
TP #5	HA3637	6.0	33100	1.6
TP #6	HA3641	2.5	30400	1.7
TP #7	HA3640	2.0	32100	1.5
TP #8	HA3679	3.0	32600	1.9

TABLE 5-5
SUMMARY OF SOIL ANALYTICAL DATA
VOLATILE AND SEMIVOLATILE ORGANICS
SCCC, KEARNY, NJ

LAB NUMBER SAMPLE NUMBER	HA3566 TSS-1 CONC.	D.L.	HA3565 TSS-2 CONC.	D.L.	HA3564 TSS-3 CONC.	D.L.	HA3572 TSS-4 CONC.	D.L.	HA3570 TSS-5 CONC.	D.L.	HA3571 TSS-6 CONC.	D.L.	HA3573 TSS-7 CONC.	D.L.
VOC Compound (ug/kg)														
Benzene	ND	27000	ND	6400	ND	7.20	ND	3300	BMDL	110.0	ND	76.0	ND	7.50
Chlorobenzene	99600	38000	ND	8700	BMDL	9.80	5940	4500	300.0	150.0	ND	100.0	BMDL	10.00
Methylene Chloride	ND	18000	5690	4100	ND	4.60	ND	2100	114.0	72.0	70.8	48.0	6.57	4.70
1,2 Trans-dichloroethylene	ND	10000	ND	2300	ND	2.60	ND	1200	76.5	41.0	ND	28.0	20.50	2.70
Tetrachloroethylene	ND	26000	ND	5900	BMDL	6.70	ND	3100	2310.0	110.0	BMDL	71.0	12.50	6.90
Trichloroethylene	ND	12000	ND	2800	ND	3.10	ND	1400	866.0	49.0	ND	33.0	29.20	3.20
BNA Compound (ug/kg)														
Acenaphthene	92000	12000	219000	2700	ND	3100	BMDL	2900	11800	4900	ND	3300	ND	3200
Acenaphthylene	24100	22000	BMDL	5100	ND	5700	ND	5300	ND	9000	ND	6000	ND	5900
Anthracene	46200	12000	7290	2700	ND	3100	ND	2900	ND	4900	ND	3300	ND	3200
Benzo(a)anthracene	BMDL	49000	BMDL	11000	BMDL	13000	BMDL	12000	BMDL	20000	BMDL	13000	ND	13000
Benzo(a)pyrene	ND	16000	3840	3600	34100	4100	6580	3800	ND	6400	4910	4300	4950	4200
Benzo(b)fluoranthene	ND	30000	BMDL	6900	65800	7900	16700	7200	14000	12000	11600	8200	8700	8100
Benzo(ghi)perylene	ND	26000	BMDL	5900	31400	6700	7940	6200	BMDL	11000	9050	7000	10500	6900
bis(2-Ethylhexyl)phthalate	ND	63000	ND	14000	ND	16000	ND	15000	30000	26000	34500	17000	44500	17000
Chrysene	41900	16000	7420	3600	14600	4100	12000	3800	12500	6400	6670	4300	4830	4200
Dibenzo(a,h)anthracene	ND	16000	ND	3600	7280	4100	ND	3800	ND	6400	ND	4300	ND	4200
1,2-Dichlorobenzene	3850000	12000	4680000	2700	12100	3100	34400	2900	522000	4900	10800	3300	3780	3200
1,3-Dichlorobenzene	1210000	12000	738000	2700	14500	3100	9590	2900	394000	4900	9500	3300	6400	3200
1,4-Dichlorobenzene	2230000	27000	4840000	6400	54600	7200	15000	6600	52200	11000	15700	7600	BMDL	7400
Di-n-butyl phthalate	ND	63000	ND	14000	ND	16000	ND	15000	ND	26000	ND	17000	ND	17000
Fluoranthene	121000	14000	12300	3200	7280	3600	8990	3300	12300	5600	5330	3800	BMDL	3700
Fluorene	213000	12000	45600	2700	ND	3100	ND	2900	BMDL	4900	ND	3300	ND	3200
Hexachlorobenzene	45000	12000	137000	2700	ND	3100	30400	2900	359000	4900	56900	3300	21100	3200
Hexachlorobutadiene	ND	5600	8520	1300	ND	1500	ND	1400	ND	2300	ND	1500	ND	1500
Indeno(1,2,3-c,d)pyrene	ND	23000	BMDL	5400	35900	6100	10500	5600	BMDL	9500	10100	6400	11300	6300
Naphthalene	2370000000	10000	167000	2300	191000	2600	5020	2400	ND	4100	51800	2700	7310	2700
Phenanthrene	428000	34000	35300	7800	BMDL	8900	10900	8100	19300	14000	BMDL	9300	ND	9100
Pyrene	70500	12000	8020	2700	6690	3100	5800	2900	7690	4900	4310	3300	BMDL	3200
1,2,4-Trichlorobenzene	75000000	12000	3040000	2700	6360	3100	14100000	2900	68200000	4900	30100	3300	25400	3200

CONC. – Concentration of Compound
D.L. – Detection Limit
ND – Not Detected
BMDL – Present below detection limit
B – Blank sample

STAN-CL2\SOIL.VOA.WK3

TABLE 5-5 (Continued)
SUMMARY OF SOIL ANALYTICAL DATA
VOLATILE AND SEMIVOLATILE ORGANICS
SCCC, KEARNY, NJ

LAB NUMBER	HA3574		HA3569		HA3568		HA3567	
SAMPLE NUMBER	TSS-8		TSS-9		TSS-9D		TSS-10	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
VOC Compound (ug/kg)								
Benzene	ND	6.70	ND	8100	ND	6600	BMDL	6.90
Chlorobenzene	ND	9.10	33500	11000	68400	9000	89.10	9.40
Methylene Chloride	ND	4.20	7020	5200	5980	4200	ND	4.40
1,2 Trans-dichloroethylene	ND	2.40	ND	3000	ND	2400	ND	2.50
Tetrachloroethylene	ND	6.20	ND	7600	BMDL	6100	9.91	6.40
Trichloroethylene	ND	2.90	ND	3500	ND	2800	ND	3.00
BNA Compound (ug/kg)								
Acenaphthene	ND	2900	ND	3500	BMDL	2800	3810	3000
Acenaphthylene	ND	5300	ND	6500	ND	5200	ND	5500
Anthracene	ND	2900	3830	3500	4270	2800	8050	3000
Benzo(a)anthracene	ND	12000	BMDL	14000	BMDL	12000	BMDL	12000
Benzo(a)pyrene	BMDL	3800	BMDL	4600	ND	3700	ND	3900
Benzo(b)fluoranthene	BMDL	7200	33100	8900	ND	7100	ND	7500
Benzo(ghi)perylene	BMDL	6200	9000	7600	6810	6100	ND	6400
bis(2-Ethylhexyl)phthalate	ND	15000	ND	19000	ND	15000	ND	16000
Chrysene	ND	3800	21500	4600	17200	3700	10900	3900
Dibenzo(a,h)anthracene	ND	3800	ND	4600	ND	3700	ND	3900
1,2-Dichlorobenzene	ND	2900	4340000	3500	6470000	2800	6530	3000
1,3-Dichlorobenzene	ND	2900	1270000	3500	1550000	2800	66200	3000
1,4-Dichlorobenzene	ND	6600	876000	8100	1200000	6500	41700	6900
Di-n-butyl phthalate	ND	15000	ND	19000	ND	15000	ND	16000
Fluoranthene	BMDL	3300	33800	4100	23400	3300	18900	3400
Fluorene	ND	2900	ND	3500	BMDL	2800	24400	3000
Hexachlorobenzene	BMDL	2900	34800	3500	23800	2800	ND	3000
Hexachlorobutadiene	ND	1400	ND	1700	ND	1300	ND	1400
Indeno(1,2,3-c,d)pyrene	BMDL	5600	11100	6900	7660	5500	ND	5800
Naphthalene	16700	2400	ND	3000	ND	2400	448000	2500
Phenanthrene	BMDL	8100	59700	10000	59900	8000	179000	8400
Pyrene	BMDL	2900	17100	3500	11900	2800	21500	3000
1,2,4-Trichlorobenzene	28300	2900	100000000	3500	200000000	2800	62800	3000

CONC.-Concentration of Compound
D.L.-Detection Limit
ND-Not Detected
BMDL-Present below detection limit
B-Blank sample

STAN-CL2\SOIL.VOA.WK3

TABLE 5-6
SUMMARY OF ANALYTICAL DATA
SOIL BORINGS
VOLATILE AND SEMIVOLATILE ORGANICS
SCCC, KEARNY, NJ

LAB NUMBER	HA3563		CB2169		CB2170		CB2177		CB2179		CB2176		CB2178	
SAMPLE NUMBER	MW-2L		SB-2A		SB-2B		SB-3A		SB-3B		SB-4A		SB-4B	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
VOC's (ug/kg)														
Chloromethane	ND	1100	ND	13	ND	71000	ND	1400	350 J	1500	180	1900	ND	2000
Acetone	NA	NA	16	13	4300 J	71000	ND	1400	ND	1500	350 J	1900	410	2000
2-Butanone	NA	NA	ND	13	ND	71000	450 J	1400	170 J	1500	560 J	1900	ND	2000
1,1,1-Trichloroethane	ND	400	ND	13	ND	71000	360 J	1400	ND	1500	500 J	1900	460	2000
Carbon Tetrachloride	ND	300	ND	13	ND	71000	ND	1400	ND	1500	89 J	1900	ND	2000
Benzene	ND	470	ND	13	48000 J	71000	320 J	1400	110 J	1500	150 J	1900	600	2000
1,2-Dichloroethene	NA	NA	ND	13	ND	71000	ND	1400	790 J	1500	ND	1900	ND	2000
Chlorobenzene	BMDL	640	ND	13	220000	71000	15000	1400	91 J	1500	5100	1900	27000	2000
Toluene	NA	640	1 JB	13	960 J	71000	160 J	1400	ND	1500	210 J	1900	160	2000
Xylene	NA	NA	ND	13	ND	71000	ND	1400	ND	1500	150 J	1900	ND	2000
Tetrachloroethene	ND	440	3 J	13	ND	71000	ND	1400	16000	1500	150 J	1900	ND	2000
Styrene	NA	NA	ND	13	ND	71000	ND	1400	ND	1500	120 J	1900	ND	2000
BNA's (ug/kg)														
1,2-Dichlorobenzene	1140	460	6800 J	13000	9200000	120000	400000	13000	ND	26000	98000 J	13000	ND	13000
1,3-Dichlorobenzene	833	460	3500 J	13000	1300000	120000	410000	13000	ND	26000	12000 J	13000	ND	13000
1,4-Dichlorobenzene	1290	1100	3400 J	13000	1300000	120000	430000	13000	ND	26000	7000 J	13000	ND	13000
Naphthalene	3220	390	5300 J	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
2 Methyl Naphthalene	NA	NA	6600 J	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
1,2,4-Trichlorobenzene	ND	460	6000 J	13000	240000 J	120000	34000	13000	ND	26000	ND	13000	ND	13000
Acenaphthene	1100	460	25000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
2,4 Dimethyl Phenol	ND	660	ND	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Dibenzofuran	NA	NA	15000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Fluorene	1360	460	33000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Phenanthrene	3660	1300	200000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Anthracene	587	460	90000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Carbazole	NA	NA	10000 J	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Fluoranthene	3140	530	200000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Pyrene	1890	460	190000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Benzo(a) anthracene	BMDL	1900	87000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Chrysene	629	610	79000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Benzo(b) Flouranthene	1800	1200	58000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Benzo(a)Pyrene	BMDL	610	82000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Indeno(1,2,3-cd) Pyrene	ND	900	54000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Benzo(g,h,i) Perylene	ND	1000	53000	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
bis(2-Ethylhexyl)phthalate	9520	2400	ND	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Di-n-butyl phthalate	3060	2400	ND	13000	ND	120000	ND	13000	ND	26000	ND	13000	ND	13000
Pest/PCB (ug/kg)(1):														
Aroclor 1248	NA	NA	ND	1300	ND	39	ND	38	ND	42	ND	41	66	41
Aroclor 1254	NA	NA	ND	1300	ND	39	ND	38	ND	42	ND	41	ND	41
Aroclor 1260	NA	NA	ND	1300	ND	39	ND	38	900 J	42	61	41	ND	41

CONC. – Concentration of compound
D.L. – Detection Limit
ND – Not detected
BMDL – Present below method detection limit, estimated concentration not reported by laboratory
(1) Laboratory method may detect false positives due to interference of elevated concentrations of chlorinated solvent compounds.

STAN-CL2\SBVOA.WK3

TABLE 5-6 (Continued)
SUMMARY OF SOIL ANALYTICAL DATA
METALS
SCCC, KEARNY, NJ

LAB NUMBER	HA3563		CB2169		CB-2170		CB2177		CB2179		CB2176		CB2178	
SAMPLE NUMBER	MW-2L		SB-2A		SB-2B		SB-3A		SB-3B		SB-4A		SB-4B	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
Metal (mg/L)														
Antimony	BMDL	13	ND	24	ND	24	ND	24	ND	24	47.5	24	20.1	24
Arsenic	BMDL	2.1	4.21	4	BMDL	4	2.53	4	2.71	4	41.9	4	13.2	4
Beryllium	BMDL	0.21	BMDL	0.4	BMDL	0.4	BMDL	0.4	BMDL	0.4	BMDL	0.4	BMDL	0.4
Cadmium	0.93	0.43	BMDL	0.8	ND	0.8	BMDL	0.8	BMDL	0.8	4.16	0.8	1.9	0.8
Chromium	593	2.1	36.7	4	4.45	4	685	4	0.39	4	428	4	130	4
Copper	26	2.1	23.6	4	BMDL	4	109	4	23.2	4	335	4	124	4
Lead	640	16	270	30	4.82	30	53	30	19.9	30	647	30	241	30
Mercury	BMDL	0.17	0.55	0.32	ND	0.32	BMDL	0.32	BMDL	0.32	ND	0.32	BMDL	0.32
Nickel	45	4.3	9.4	8.1	BMDL	8.1	14.6	8.1	9.73	8.1	51.8	8.1	25.5	8.1
Selenium	NA	NA	BMDL	2	ND	2	ND	2	ND	2	BMDL	2	ND	2
Silver	BMDL	2.1	ND	4	ND	4	ND	4	ND	4	BMDL	4	ND	4
Thallium	NA	NA	ND	4	ND	4	ND	4	ND	4	ND	4	ND	4
Zinc	55	4.3	99.3	8.1	14.2	8.1	90.6	8.1	42.3	8.1	3710	8.1	1520	8.1
Cyanide	1.2	1.1	ND	0.6	ND	0.6	2.1	0.6	ND	0.6	ND	0.6	ND	0.6

CONC. – Concentration of compound
D.L. – Detection Limit
ND – Not detected
NA – Not analyzed
BMDL – Present below method detection limit, estimated concentration not reported by laboratory

1996-1997 Focused Remedial Investigation

Table 3-3
Summary of FRI Soil Sample Results
Standard Chlorine Chemical Company
Kearny, New Jersey Facility

Sample ID Sample Depth (ft) Lab ID# Sample Date Sample Time Matrix Units Parameter	NJDEP Soil Cleanup Criteria Residential Direct Contact	NJDEP Soil Cleanup Criteria NonRes Direct Contact	SB03 14.5-15 BR1903 8/5/96 1735 Soil µg/kg	SB06 15-15.5 BR1919 8/12/96 1165 Soil µg/kg	SB09 1.5-2 BR1920 8/12/96 1335 Soil µg/kg	SB09 15-15.5 BR1921 8/12/96 1458 Soil µg/kg	SB14 18.5-19 BR1911 8/7/96 1000 Soil µg/kg
Units	µg/kg	µg/kg					
VOC's (µg/kg)							
1,2,3-Trichlorobenzene	NA	NA	1,770,000	1,000,000	32.6	345,000	91.9
1,2,4-Trichlorobenzene	68,000	1,200,000	6,540,000	1,870,000	20.3	1,100,000	350
1,2,4-Trimethylbenzene	NA	NA					2.15 BMDL
1,2-Dichlorobenzene	5,100,000	10,000,000	1,080,000	1,310,000	5.98 BMDL	306,000	70.2
1,3-Dichlorobenzene	5,100,000	10,000,000	1,700,000	433,000 BMDL	3.29 BMDL	210,000	90.9
1,4-Dichlorobenzene	570,000	10,000,000	1,630,000	677,000	5.59 BMDL	257,000	93.5
Acetone	1,000,000	1,000,000					135
Butylbenzene	NA	NA		57,800 BMDL			
Chlorobenzene	37,000	680,000				42,600 BMDL	3.49 BMDL
Trichloroethylene	23,000	54,000			5.6 BMDL		
SVOC's (µg/kg)							
Naphthalene	230,000	4,200,000	1,810,000	2,400,000	191	181,000	57.2
Tetrachloroethylene	4,000	6,000				56,900 BMDL	

Sample ID Sample Depth (ft) Lab ID# Sample Date Sample Time Matrix Units Parameter	NJDEP Soil Cleanup Criteria Residential Direct Contact	NJDEP Soil Cleanup Criteria NonRes Direct Contact	SB07 13.5-16 BR1927 08/16/96 Soil µg/kg	SB10R 16-16.5 BR1930 08/16/96 Soil µg/kg	SB01 15.5-16 BR1931 08/16/96 Soil µg/kg
Units	µg/kg	µg/kg			
VOC's (µg/kg)					
1,2,3-Trichlorobenzene	NA	NA		2,140,000	
1,2,4-Trichlorobenzene	60,000	1,200,000		2,290,000	2 BMDL
1,2,4-Trimethylbenzene	NA	NA	65,300	60,800 BMDL	
1,2-Dichlorobenzene	5,100,000	10,000,000		2,320,000	115
1,3,5-Trimethylbenzene	NA	NA	23,900 BMDL		
1,3-Dichlorobenzene	5,100,000	10,000,000		557,000	43
1,4-Dichlorobenzene	570,000	10,000,000		1,160,000	89
m+p-Xylenes	610,000	1,000,000	44,300 BMDL		
o-Xylene	410,000	1,000,000	18,300 BMDL		
SVOC's (µg/kg)					
Naphthalene	230,000	4,200,000	1,820,000	5,750,000	26

Notes:
Values that are shaded are above the NJDEP Soil Cleanup Criteria for Residential Direct Contact limitations.
Values that are in bold italics, shaded and boxed are above the NJDEP Soil Cleanup Criteria for Industrial Direct Contact Limitations.
BMDL = Concentration detected below method detection limit.
NA = No standard available.

1997-1999 Supplemental Remedial Investigation

..EANUP ..IA	NON-RES[illegible]AL SOIL CLE[illegible] CRITERIA	RESIDENTIAL SOIL CLEANUP CRITERIA	DEPTH (ft):	0-2	8-12	0-2	10-12	0-2	0-2 DILUTED	8-10	16-18	[illegible]	10-12
50000	10000000	10000000		< 380	< 440	500	< 730	< 410	< 16000	< 1300	< 500	< 1600	< 460
10000	3000	660		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
10000	5200000	280000		< 380	< 440	< 430	< 730	< 410	< 16000	< 1300	< 500	< 1600	< 460
100000	10000000	5100000		75 J	540	52 J	84 J	< 120	< 5000	< 400	< 150	< 470	< 140
100000	10000000	570000		< 120	2000	130 J	200 J	< 120	< 5000	< 400	< 150	< 470	< 140
50000	10000000	5100000		76 J	190	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
	10000000	2800000		< 380	< 440	230 J	< 730	< 410	< 16000	< 1300	< 500	< 1600	< 460
				< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
	10000000	2800000		< 380	< 440	< 430	< 730	< 410	< 16000	< 1300	< 500	320 J	< 460
10000	660	660		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
100000	100000	6000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
50000	50000	28000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
50000	10000000	1100000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
				< 380	< 440	< 430	< 730	< 410	< 16000	< 1300	< 500	< 1600	< 460
10000	10000000	1100000		< 380	< 440	220 J	< 730	< 410	< 16000	< 1300	< 500	360 J	< 460
				< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
10000	3100000	170000		< 380	< 440	< 430	< 730	< 410	< 16000	< 1300	< 500	< 1600	< 460
100000	1200000	68000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
100000	4200000	230000		< 120	< 140	40 J	92 J	210	< 5000	< 400	70 J	240 J	< 140
	4200000	230000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
100000	21000	1000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
100000	10000000	10000000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
				< 120	< 140	< 130	< 220	110 J	< 5000	< 400	< 150	< 470	< 140
100000	7300000	400000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
10000	270000	62000		< 380	< 440	< 430	< 730	< 410	< 16000	< 1300	< 500	< 1600	< 460
50000	10000000	5600000		< 2000	< 2300	< 2200	< 3800	< 2100	< 84000	< 6800	< 2600	< 8100	< 2300
				< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
				< 2000	< 2300	< 2200	< 3800	< 2100	< 84000	< 6800	< 2600	< 8100	< 2300
50000	10000000	10000000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	620	< 140
				62 J	< 140	< 130	(69)	130	< 5000	< 400	< 150	< 470	< 140
				< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
				< 2000	< 2300	< 2200	< 3800	< 2100	< 84000	< 6800	< 2600	< 8100	< 2300
100000	10000000	3400000		< 120	< 140	< 130	520	240	< 5000	< 400	< 150	< 470	< 140
10000	2100000	110000		< 2000	< 2300	< 2200	< 3800	< 2100	< 84000	< 6800	< 2600	< 8100	< 2300
				< 2000	< 2300	< 2200	< 3800	< 2100	< 84000	< 6800	< 2600	< 8100	< 2300
				< 120	< 140	< 130	67 J	160	< 5000	< 400	< 150	< 470	< 140
				< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
50000	10000000	10000000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
				< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
100000	10000000	2300000		< 120	< 140	< 130	170 J	240	< 5000	< 400	< 150	< 470	< 140
				< 2000	< 2300	< 2200	< 3800	< 2100	< 84000	< 6800	< 2600	< 8100	< 2300
				< 2000	< 2300	< 2200	< 3800	< 2100	< 84000	< 6800	< 2600	< 8100	< 2300
100000	600000	140000		< 120	< 140	150	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
				< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
100000	2000	660		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
100000	24000	6000		< 2000	< 2300	< 2200	< 3800	< 2100	< 84000	< 6800	< 2600	< 8100	< 2300
				210	< 140	170	820	2000	2400 JD	230 J	< 150	< 470	< 140
100000	10000000	10000000		91 J	< 140	58 J	280	570	< 5000	< 400	< 150	< 470	< 140
				39 J	< 140	< 130	100 J	360	< 5000	< 400	< 150	< 470	< 140
100000	10000000	5700000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
100000	10000000	2300000		460	50 J	380	1200	3100	3500 JD	400	< 150	< 470	< 140
100000	10000000	1700000		410	44 J	340	1200	6900 E	2500 JD	320 J	< 150	< 470	< 140
100000	10000000	1100000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
100000	6000	2000		< 120	< 140	< 130	< 220	< 120	< 5000	< 400	< 150	< 470	< 140
500000	4000	900		280	< 140	240	470	[1500]	[1800] JD	200 J	< 150	< 470	< 140
500000	40000	9000		280	< 140	260	480	6400 E	1600 JD	200 J	< 150	< 470	< 140
100000	210000	49000		100 J	< 140	75 J	< 220	[120000] E	[220000] D	290 J	71 J	< 470	< 140
100000	10000000	1100000		< 120	< 140	< 130	< 220	[190000] E	[190000] D	< 400	< 150	< 470	< 140
50000	4000	900		450	41 J	480	680	[2200]	[2100] JD	300 J	< 150	< 470	< 140
500000	4000	900		190	< 140	170	95 J	[2200]	< 5000	< 400	< 150	< 470	< 140
100000	660	660		360	< 140	380	420	< 120	< 5000	210 J	< 150	< 470	< 140
500000	4000	900		190	< 140	< 130	< 220	880	< 5000	< 400	< 150	< 470	< 140
100000	660	660		< 120	< 140	< 130	< 220	450	< 5000	< 400	< 150	< 470	< 140
				48 J	< 140	210	160 J	200	< 5000	< 400	< 150	< 470	< 140

·than New Jersey Residential Soil Cleanup Criteria.
method detection limit
[illegible]

E.3 Groundwater Data

1983-1984 Hydrogeologic Investigation

Table 1-2

Summary of Groundwater Results (1983)
SCCC, Kearny, NJ

Parameters	1S	1D	2S	2D	3S	3D	4S	4D	5S	5D
pH	8.4	6.3	9.3	5.6	8.8	5.3	11.4	4.8	11.4	2.0
Conductivity (umhos)	1050	2150	5000	5000	2450	2400	5000	5000	5000	5000
Total Chromium	<0.05	<0.05	7.7	0.3	0.29	0.06	101.7	0.44	NA	44.3
Hexavalent Chromium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	97.0	<0.1	NA	<0.1
Benzene	ND	125	ND	1000	65	670	ND	220	190	50
Chlorobenzene	ND	1850	1500	660	55	ND	93000	13900	450	ND
1,1,2-trichloroethane	ND	ND	ND	ND	ND	ND	ND	30	ND	ND
1,1-dichloroethylene	ND	ND	ND	ND	ND	ND	ND	20	ND	ND
trans-1,2-dichloroethylene	ND	ND	ND	30	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	300	ND	310	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	25	ND	ND	5350	ND	ND
Toluene	ND	ND	ND	435	ND	640	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	20	35	ND	ND	13960	ND	ND
Total Xylenes	ND	ND	ND	745	55	1550	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	540	28	10	ND	ND	4300
Anthracene	ND	ND	ND	ND	630	64	10	ND	ND	120
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND	22	31	12	ND
1,2-dichlorobenzene	ND	1500	ND	2700	ND	ND	ND	4900	ND	ND
1,3-dichlorobenzene	ND	3100	ND	1400	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	ND	4100	ND	3700	ND	ND	10	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND	10	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	10	ND	19	ND	ND	ND	32	10	ND
Fluoranthene	ND	ND	ND	ND	86	ND	ND	ND	ND	ND
Flourene	ND	ND	ND	ND	570	ND	ND	ND	ND	ND
Naphthalene	ND	10	ND	ND	ND	53	510	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	170	ND	ND	ND	ND	ND
1,2,4-trichlorobenzene	ND	10	ND	ND	ND	ND	ND	ND	10	ND
1,2-diphenyl hydrazene	ND	ND	ND	ND	ND	ND	ND	ND	ND	37
Detection Limits*	10/10	10/10	10/10	5/10	10/10	10/10	250/10	10/10	5/10	5/10

NA = Not Analyzed
ND = Not Detected
* = First number is the detection limit for volatile organics, the second number is the detection limit for base-neutrals. Detection limits will vary with degree of contamination.
Note: All concentrations in parts per billion (ppb), except where noted.

STAN-CL2\TBL1-2.TBL

1990-1993 Remedial Investigation

TABLE 5-11
SUMMARY OF PHASE I GROUNDWATER ANALYTICAL DATA
VOLATILES AND SEMIVOLATILES
SCCC, KEARNY, NJ

LAB NUMBER SAMPLE NUMBER	HA3935 MW-1L CONC.	 D.L.	HA3936 MW-1LDUP CONC.	 D.L.	HA3941 MW-2L CONC.	 D.L.	HA3937 MW-3L CONC.	 D.L.	HA3944 MW-4L CONC.	 D.L.	HA3943 MW-5L CONC.	 D.L.	HA3940 MW-6L CONC.	 D.L.	HA3942 MW-7L CONC.	 D.L.	HA3945 MW-8L CONC.	 D.L.	HA3938 MW-9L CONC.	 D.L.
VOC's (ug/L)																				
Methyl chloride	ND	10.0	ND	10.0	ND	250	ND	10.0	ND	1000	ND	250	ND	100	ND	250	ND	500	BMDL	20.0
Dichlorodifluoromethane	ND	10.0	ND	10.0	ND	250	10.6	10.0	ND	1000	ND	250	ND	100	ND	250	ND	500	ND	20.0
Vinyl chloride	ND	10.0	ND	10.0	ND	250	ND	10.0	ND	1000	ND	250	ND	100	ND	250	669	500	ND	20.0
Methylene chloride	ND	2.8	ND	2.8	81.4	70	ND	2.8	415	280	ND	70	38.8-B	28	79.8	70	223	140-B	ND	5.6
1,2-Trans-dichloroethylene	ND	1.6	ND	1.6	ND	40	ND	1.6	ND	160	ND	40	ND	16	ND	40	244	80	ND	3.2
Trichloroethylene	ND	1.9	ND	1.9	ND	48	ND	1.9	ND	190	ND	48	ND	19	BMDL	48	5270	95	ND	3.8
bis(Chloromethyl)ether	ND	10.0	ND	10.0	ND	250	ND	10.0	ND	1000	ND	250	ND	100	ND	250	ND	500	ND	20.0
Benzene	ND	4.4	ND	4.4	190	110	BMDL	4.4	519	440	BMDL	110	534	44	501	180	388	230	31.1	8.8
Tetrachloroethylene	ND	4.1	ND	4.1	ND	100	ND	4.1	ND	410	ND	100	ND	41	ND	100	1590	210	ND	8.2
Toluene	ND	6.0	ND	6.0	BMDL	150	ND	6.0	ND	600	ND	150	912	60	1190	150	ND	300	14.6	12.0
Chlorobenzene	ND	6.0	ND	6.0	882	150	65.1	6.0	1230	600	414	150	BMDL	60	ND	150	3060	300	ND	12.0
Ethylbenzene	ND	7.2	ND	7.2	ND	180	ND	7.2	ND	730	ND	180	309	72	243	180	ND	360	ND	14.0
BNA's (ug/L)																				
Phenol	ND	1.6	ND	1.7	73.5	1.8	ND	1.8	1320	8.9	ND	16	888	8.2	53700	17	3600	37	68700	86
2-Chlorophenol	ND	3.6	ND	3.7	ND	4	ND	3.9	ND	20	ND	36	ND	18	ND	38	ND	80	ND	190
2,4-Dimethylphenol	ND	2.9	ND	3	3.82	3.3	ND	3.2	5400	16	ND	29	28500	15	83200	31	581	66	7930	160
2,4-Dichlorophenol	ND	2.9	ND	3	99	3.3	145	3.2	77.3	16	142	29	ND	15	ND	31	ND	66	ND	160
2,4,6-Trichlorophenol	ND	2.9	ND	3	ND	3.3	ND	3.2	ND	16	ND	29	ND	15	ND	31	ND	66	ND	160
1,3-Dichlorobenzene	ND	2.1	ND	2.1	18500	2.3	24600	2.2	26900	11	6030	21	ND	10	152	22	12500	46	ND	110
1,4-Dichlorobenzene	BMDL	4.8	BMDL	4.9	21900	5.3	29500	5.2	29200	26	10400	48	ND	24	279	50	12300	110	ND	250
1,2-Dichlorobenzene	2.58	2.1	BMDL	2.1	19600	2.3	30300	2.2	28100	11	9650	21	ND	10	1570	22	13800	46	ND	110
1,2,4-Trichlorobenzene	ND	2.1	ND	2.1	89.6	2.3	127	2.2	107	11	ND	21	ND	10	ND	22	14400	46	ND	110
Naphthalene	ND	1.7	ND	1.8	111	1.9	55.8	1.9	70.8	9.5	19.6	17	12700	8.7	23700	18	4970	39	58200	92
Acenaphthylene	ND	3.8	ND	3.9	ND	4.2	ND	4.1	ND	21	ND	38	52.9	19	96.3	40	ND	85	ND	200
Acenaphthene	ND	2.1	ND	2.1	6.43	2.3	ND	2.2	BMDL	11	ND	21	264	10	548	22	BMDL	46	2910	110
Fluorene	ND	2.1	ND	2.1	5.51	2.3	ND	2.2	ND	11	ND	21	136	10	303	22	ND	46	ND	110
Hexachlorobenzene	ND	2.1	ND	2.1	ND	2.3	ND	2.2	ND	11	ND	21	ND	10	ND	22	ND	46	ND	110
Phenanthrene	ND	5.9	ND	6.1	BMDL	6.5	ND	6.4	ND	32	ND	59	68.8	29	216	61	ND	130	ND	310
Anthracene	ND	2.1	ND	2.1	ND	2.3	ND	2.2	ND	11	ND	21	23.4	10	69.3	22	ND	46	ND	110
Fluoranthene	ND	2.4	ND	2.5	ND	2.7	ND	2.6	ND	13	ND	24	ND	12	29.7	25	ND	51	ND	130
Pyrene	ND	2.1	ND	2.1	ND	2.3	ND	2.2	ND	11	ND	21	ND	10	BMDL	22	ND	46	ND	110
bis(2-Ethylhexyl)phthalate	ND	11	ND	11	ND	12	ND	12	ND	60	ND	110	11100	54	ND	110	ND	240	ND	570
Phenolics	ND	0.05	ND	0.05	ND	0.05	ND	0.05	6	0.05	0.051	0.05	13	0.05	154	0.05	4	0.05	510	0.05

CONC. – Concentration of Compound
D.L. – Detection Limit
NA – Not analyzed
ND – Not detected
BMDL – Present below detection limit, estimated concentration not reported by laboratory
B – Compound also detected in laboratory blanks

STAN-CL2\GW-VOA.WK3

TABLE 5-11 (Continued)
SUMMARY OF PHASE I GROUNDWATER ANALYTICAL DATA
VOLATILES AND SEMIVOLATILES
SCCC, KEARNY, NJ

LAB NUMBER	HA3939		HA3958		HA3952		HA3950		HA3955		HA3957		HA3954		HA3956		HA3953		HA3951		HA3946	
SAMPLE NUMBER	MW-10L		MW-11L		MW-11U		MW-12L		MW-12U		MW-13L		MW-13U		MW-14L		MW-14U		MW-15L		MW-15U	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
VOC's (ug/L)																						
Methyl chloride	ND	100	ND	200	ND	200	ND	250	ND	200	267	200	ND	10.0	ND	10.0	ND	10.0	ND	1000	ND	10.0
Dichlorodifluoromethane	ND	100	ND	200	ND	200	ND	250	ND	200	ND	200	ND	10.0	ND	10.0	ND	10.0	ND	1000	ND	10.0
Vinyl chloride	ND	100	ND	200	ND	200	ND	250	ND	200	ND	200	ND	10.0	ND	10.0	ND	10.0	ND	1000	ND	10.0
Methylene chloride	38.9-B	28	73.3	56	ND	56	ND	70	101	100	ND	56	ND	2.8	ND	2.8	BMDL	2.8	ND	280	ND	2.8
1,2-Trans-dichloroethylene	ND	16	ND	32	174	32	ND	40	ND	100	ND	32	ND	1.6	ND	1.6	ND	1.6	ND	160	ND	1.6
Trichloroethylene	ND	19	173	38	96	38	108	48	ND	100	79	38	ND	1.9	121	1.9	ND	1.9	ND	190	ND	1.9
bis(Chloromethyl)ether	ND	100	ND	200	ND	200	ND	250	ND	200	ND	200	ND	10.0	ND	10.0	ND	10.0	ND	1000	ND	10.0
Benzene	108	44	467	88	353	88	337	110	ND	100	118	88	BMDL	4.4	131	4.4	4.99	4.4	3010	440	ND	4.4
Tetrachloroethylene	ND	41	BMDL	82	96.7	82	ND	100	ND	100	BMDL	82	ND	4.1	74.1	4.1	ND	4.1	ND	410	ND	4.1
Toluene	108	60	BMDL	120	BMDL	120	1290	150	ND	100	BMDL	120	BMDL	6.0	115	6.0	20.7	6.0	ND	600	ND	6.0
Chlorobenzene	111	60	1110	120	796	120	743	150	ND	100	200	120	ND	6.0	134	6.0	ND	6.0	1830	600	ND	6.0
Ethylbenzene	BMDL	72	ND	140	ND	140	240	180	ND	100	ND	140	ND	7.2	21.1	7.2	51.1	7.2	ND	730	ND	7.2
BNA's (ug/L)																						
Phenol	ND	16	19100	33	445	1.6	42600	82	6.62	1.7	210000	18	19300	1.7	33500	84	ND	1.7	783	1.7	ND	1.6
2-Chlorophenol	ND	36	ND	73	ND	3.6	ND	180	ND	3.7	ND	39	ND	3.7	ND	190	ND	3.7	63.3	3.7	ND	3.6
2,4-Dimethylphenol	25900	30	1180	59	1830	2.9	20900	190	33.7	3	22800	32	808	3	17500	190	53.3	3	ND	3	ND	3
2,4-Dichlorophenol	ND	30	ND	59	ND	2.9	ND	190	ND	3	ND	32	ND	3	ND	190	ND	3	321	3	ND	3
2,4,6-Trichlorophenol	ND	30	ND	59	ND	2.9	ND	190	15.5	3	ND	32	ND	3	ND	190	ND	3	ND	3	ND	3
1,3-Dichlorobenzene	60.4	21	1570	42	892	2.1	1130	100	65.9	2.1	239	22	25.4	2.1	2650	110	4.1	2.1	15200	2.1	78.6	2.1
1,4-Dichlorobenzene	110	48	2310	97	1910	4.8	2560	240	141	4.9	497	52	51.7	4.9	4610	250	9.56	4.9	19500	4.9	109	4.8
1,2-Dichlorobenzene	156	21	6650	42	5250	2.1	5290	100	145	2.1	771	22	74.2	2.1	2780	110	5.2	2.1	20600	2.1	140	2.1
1,2,4-Trichlorobenzene	ND	21	6070	42	5400	2.1	1520	100	128	2.1	3520	22	166	2.1	14000	110	41.8	2.1	81.2	2.1	ND	2.1
Naphthalene	4990	18	7150	35	9660	1.7	11700	87	426	1.8	16400	19	5020	1.8	5020	90	6540	1.8	20.4	1.8	ND	1.8
Acenaphthylene	ND	38	ND	77	ND	3.8	BMDL	190	8.7	3.9	ND	41	ND	3.9	ND	200	6.88	3.9	ND	3.9	ND	3.8
Acenaphthene	33.7	21	ND	42	22.4	2.1	104	100	117	2.1	308	22	25.5	2.1	ND	110	238	2.1	ND	2.1	ND	2.1
Fluorene	ND	21	ND	42	19.3	2.1	BMDL	100	39.7	2.1	ND	22	2.9	2.1	ND	110	57.8	2.1	ND	2.1	ND	2.1
Hexachlorobenzene	ND	21	ND	42	ND	2.1	BMDL	100	ND	2.1	ND	22	ND	2.1	ND	110	ND	2.1	ND	2.1	ND	2.1
Phenanthrene	ND	59	ND	130	15.9	5.9	BMDL	290	41.1	6	ND	64	BMDL	6.1	ND	300	27	6	ND	6	ND	5.9
Anthracene	ND	21	ND	42	9.66	2.1	ND	100	3.63	2.1	ND	22	ND	2.1	ND	110	4.2	2.1	ND	2.1	ND	2.1
Fluoranthene	ND	24	ND	48	ND	2.4	ND	120	4.26	2.4	ND	26	ND	2.5	ND	130	BMDL	2.4	ND	2.4	ND	2.4
Pyrene	ND	21	ND	42	ND	2.1	ND	100	2.1	2.1	ND	22	ND	2.1	ND	110	BMDL	2.1	ND	2.1	ND	2.1
bis(2-Ethylhexyl)phthalate	ND	110	ND	220	ND	11	ND	540	ND	11	ND	130	ND	11	ND	560	ND	11	ND	11	588	11
Phenolics	3620	0.05	96	0.05	5	0.05	110	0.05	NA	NA	2660	0.05	NA	NA	57	0.16	0.17	0.05	ND	0.05	ND	0.05

CONC. – Concentration of Compound
D.L. – Detection Limit
NA – Not analyzed
ND – Not detected
BMDL – Present below detection limit, estimated concentration not reported by laboratory
B – Compound also detected in laboratory blanks

STAN-CL2GW-VOA.WK3

TABLE 5-11 (Continued)
SUMMARY OF PHASE I GROUNDWATER ANALYTICAL DATA
VOLATILES AND SEMIVOLATILES
SCCC, KEARNY, NJ

LAB NUMBER	HA3948		HA3947		HA3959		HA3961		HA3960		HA3963		HA3962	
SAMPLE NUMBER	FB-1		FB-2		FB-3		TB-1		TB-2		TB-3		TRIP BLANK	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
VOC's (ug/L)														
Methyl chloride	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0
Dichlorodifluoromethane	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0
Vinyl chloride	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0
Methylene chloride	3.1J-B	2.8	2.9J-B	2.8	ND	2.8	3.5-B	2.8	3.55-B	2.8	ND	2.8	ND	2.8
1,2-Trans-dichloroethylene	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6
Trichloroethylene	ND	1.9	ND	1.9	ND	1.9	ND	1.9	ND	1.9	ND	1.9	ND	1.9
bis(Chloromethyl)ether	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0	ND	10.0
Benzene	ND	4.4	ND	4.4	ND	4.4	ND	4.4	ND	4.4	ND	4.4	ND	4.4
Tetrachloroethylene	ND	4.1	ND	4.1	ND	4.1	ND	4.1	ND	4.1	ND	4.1	ND	4.1
Toluene	BMDL-B	6.0	ND	6.0	ND	6.0	ND	6.0	ND	6.0	ND	6.0	ND	6.0
Chlorobenzene	ND	6.0	ND	6.0	ND	6.0	ND	6.0	ND	6.0	ND	6.0	ND	6.0
Ethylbenzene	ND	7.2	ND	7.2	ND	7.2	ND	7.2	ND	7.2	ND	7.2	ND	7.2
BNA's (ug/L)														
Phenol	ND	1.6	ND	2	ND	1.6								
2-Chlorophenol	ND	3.6	ND	4.5	ND	3.5								
2,4-Dimethylphenol	ND	2.9	ND	3.6	ND	2.8								
2,4-Dichlorophenol	ND	2.9	ND	3.6	ND	2.8								
2,4,6-Trichlorophenol	ND	2.9	ND	3.6	ND	2.8								
1,3-Dichlorobenzene	ND	2.1	ND	2.6	ND	2								
1,4-Dichlorobenzene	ND	4.8	ND	5.9	ND	4.6								
1,2-Dichlorobenzene	ND	2.1	ND	2.6	ND	2								
1,2,4-Trichlorobenzene	ND	2.1	ND	2.6	ND	2								
Naphthalene	ND	1.7	ND	2.2	ND	1.7								
Acenaphthylene	ND	3.8	ND	4.7	ND	3.7								
Acenaphthene	ND	2.1	ND	2.6	ND	2								
Fluorene	ND	2.1	ND	2.6	ND	2								
Hexachlorobenzene	ND	2.1	ND	2.6	ND	2								
Phenanthrene	ND	5.9	ND	7.3	ND	5.7								
Anthracene	ND	2.1	ND	2.6	ND	2								
Fluoranthene	ND	2.4	ND	3	ND	2.3								
Pyrene	ND	2.1	ND	2.6	ND	2								
bis(2-Ethylhexyl)phthalate	ND	11	ND	14	ND	11								
Phenolics	ND	0.05	ND	0.05	ND	0.05								

CONC. – Concentration of Compound
D.L. – Detection Limit
NA – Not analyzed
ND – Not detected
BMDL – Present below detection limit, estimated concentration not reported by laboratory
B – Compound also detected in laboratory blanks

TABLE 5-11 (Continued)
SUMMARY OF PHASE I GROUNDWATER ANALYTICAL DATA
METALS
SCCC, KEARNY, NJ

LAB NUMBER	HA3935		HA3936		HA3941		HA3937		HA3944		HA3943		HA3940	
SAMPLE NUMBER	MW-1L		MW-1LDUP		MW-2L		MW-3L		MW-4L		MW-5L		MW-6L	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
Metals (mg/L)														
Antimony	ND	0.06	ND	0.06	ND	0.06	ND	0.06	ND	0.06	ND	0.06	ND	0.06
Arsenic	BMDL	0.05	BMDL	0.05	0.047	0.01	0.13	0.01	0.02	0.02	0.1	0.01	0.042	0.01
Beryllium	0.0014	0.001	0.0013	0.001	ND	0.001	ND	0.001	0.0022	0.001	0.0029	0.001	BMDL	0.001
Cadmium	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.0023	0.002	ND	0.002
Chromium	1.87	0.01	1.37	0.01	0.039	0.01	0.014	0.01	1.4	0.01	1.89	0.01	0.18	0.01
Copper	0.026	0.01	0.021	0.01	0.015	0.01	0.011	0.01	0.015	0.01	0.046	0.01	0.014	0.01
Lead	ND	0.075	ND	0.075	BMDL	0.075	ND	0.075	BMDL	0.075	BMDL	0.075	ND	0.075
Mercury	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002
Nickel	0.027	0.02	0.028	0.02	BMDL	0.02	BMDL	0.02	0.045	0.02	0.023	0.02	0.023	0.02
Selenium	BMDL	0.025	BMDL	0.005	ND	0.005	ND	0.005	ND	0.01	ND	0.025	BMDL	0.005
Silver	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	BMDL	0.01	BMDL	0.01
Thallium	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Zinc	0.037	0.02	0.034	0.02	BMDL	0.02	BMDL	0.02	0.05	0.02	0.068	0.02	0.074	0.02
Chromium, Hexavalent	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.01	ND	0.01
Cyanide	0.034	0.025	ND	0.025	ND	0.025	0.035	0.025	ND	0.025	0.08	0.025	0.058	0.025

CONC. – Concentration of Compound
D.L. – Detection Limit
ND – Not detected
BMDL – Present below detection limit, estimated concentration not reported by laboratory

TABLE 5-11 (Continued)
SUMMARY OF PHASE I GROUNDWATER ANALYTICAL DATA
METALS
SCCC, KEARNY, NJ

LAB NUMBER	HA3942		HA3945		HA3938		HA3939		HA3958		HA3952		HA3950	
SAMPLE NUMBER	MW-7L		MW-8L		MW-9L		MW-10L		MW-11L		MW-11U		MW-12L	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
Metals (mg/L)														
Antimony	ND	0.06	ND	0.06	ND	0.06	ND	0.06	ND	0.06	0.39	0.06	ND	0.06
Arsenic	BMDL	0.05	BMDL	0.02	BMDL	0.25	BMDL	0.05	0.066	0.01	0.13	0.01	BMDL	0.05
Beryllium	0.0028	0.001	0.0021	0.001	0.145	0.001	0.017	0.001	0.003	0.001	0.0026	0.001	0.0028	0.001
Cadmium	ND	0.002	ND	0.002	ND	0.01	ND	0.004	0.013	0.002	0.014	0.002	0.01	0.002
Chromium	0.87	0.01	0.71	0.01	15.8	0.01	4.91	0.01	1.16	0.01	6.64	0.01	0.17	0.01
Copper	0.018	0.01	0.064	0.01	0.57	0.01	0.051	0.01	0.037	0.01	0.9	0.01	0.019	0.01
Lead	ND	0.075	BMDL	0.075	0.61	0.075	0.14	0.075	0.34	0.075	12.5	0.075	BMDL	0.075
Mercury	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	0.00041	0.0002	0.142	0.0002	0.00023	0.0002
Nickel	0.067	0.02	0.026	0.02	6.74	0.02	0.93	0.02	0.46	0.02	0.48	0.02	0.3	0.02
Selenium	ND	0.005	ND	0.005	ND	0.025	ND	0.025	ND	0.005	ND	0.025	ND	0.05
Silver	ND	0.01	ND	0.01	BMDL	0.01	BMDL	0.01	BMDL	0.01	BMDL	0.01	BMDL	0.01
Thallium	ND	0.01	ND	0.01	BMDL	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Zinc	0.039	0.02	0.046	0.02	11.9	0.02	1.3	0.02	0.54	0.02	0.55	0.02	0.31	0.02
Chromium, Hexavalent	ND	0.5	ND	0.05	ND	0.5	ND	0.05	ND	0.01	ND	0.05	ND	0.01
Cyanide	0.092	0.025	0.037	0.025	0.028	0.025	0.067	0.025	0.055	0.025	0.197	0.025	0.07	0.025

CONC. – Concentration of Compound
D.L. – Detection Limit
ND – Not detected
BMDL – Present below detection limit, estimated concentration not reported by laboratory

TABLE 5-11 (Continued)
SUMMARY OF PHASE I GROUNDWATER ANALYTICAL DATA
METALS
SCCC, KEARNY, NJ

LAB NUMBER SAMPLE NUMBER	HA3955 MW-12U CONC.	D.L.	HA3957 MW-13L CONC.	D.L.	HA3954 MW-13U CONC.	D.L.	HA3956 MW-14L CONC.	D.L.	HA3953 MW-14U CONC.	D.L.	HA3951 MW-15L CONC.	D.L.	HA3946 MW-15U CONC.	D.L.
Metals (mg/L)														
Antimony	BMDL	0.06	0.19	0.06	0.062	0.06	ND	0.06	0.18	0.06	ND	0.06	0.11	0.06
Arsenic	BMDL	0.01	BMDL	0.1	ND	0.01	BMDL	0.05	0.035	0.01	BMDL	0.01	0.024	0.01
Beryllium	BMDL	0.001	0.033	0.001	BMDL	0.001	0.0054	0.001	0.0019	0.001	BMDL	0.001	0.0031	0.001
Cadmium	0.0055	0.002	0.17	0.002	BMDL	0.002	0.021	0.002	0.0076	0.002	0.01	0.002	0.0081	0.002
Chromium	2.3	0.01	67.3	0.01	7.15	0.01	0.9	0.01	20.3	0.01	0.023	0.01	4.2	0.01
Copper	0.077	0.01	0.35	0.01	0.022	0.01	0.058	0.01	0.23	0.01	0.021	0.01	0.26	0.01
Lead	0.6	0.075	0.35	0.075	ND	0.075	0.11	0.075	2.6	0.075	0.82	0.075	44.9	0.075
Mercury	0.0014	0.0002	BMDL	0.0002	0.00033	0.0002	0.00023	0.0002	0.0347	0.0002	ND	0.0002	0.00087	0.0002
Nickel	0.22	0.02	2.95	0.02	0.029	0.02	0.51	0.02	0.36	0.02	ND	0.02	0.13	0.02
Selenium	ND	0.005	BMDL	0.025	ND	0.005	ND	0.005	ND	0.025	ND	0.025	ND	0.025
Silver	ND	0.01	BMDL	0.01	ND	0.01	BMDL	0.01	BMDL	0.01	ND	0.01	BMDL	0.01
Thallium	ND	0.01	BMDL	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Zinc	0.22	0.02	2.53	0.02	0.028	0.02	0.49	0.02	0.64	0.02	0.054	0.02	0.62	0.02
Chromium, Hexavalent	0.081	0.01	ND	0.05	7.38	0.01	ND	0.01	3.32	0.01	ND	0.01	0.088	0.01
Cyanide	ND	0.025	ND	0.025	0.025	0.025	0.073	0.025	0.031	0.025	ND	0.025	ND	0.025

CONC. – Concentration of Compound
D.L. – Detection Limit
ND – Not detected
BMDL – Present below detection limit, estimated concentration not reported by laboratory

TABLE 5-11 (Continued)
SUMMARY OF PHASE I GROUNDWATER ANALYTICAL DATA
METALS
SCCC, KEARNY, NJ

LAB NUMBER SAMPLE NUMBER	HA3948 FB-1 CONC.	 D.L.	HA3947 FB-2 CONC.	 D.L.	HA3959 FB-3 CONC.	 D.L.
Metals (mg/L)						
Antimony	ND	0.06	ND	0.06	ND	0.06
Arsenic	ND	0.01	ND	0.01	ND	0.01
Beryllium	ND	0.001	ND	0.001	ND	0.001
Cadmium	ND	0.002	ND	0.002	ND	0.002
Chromium	ND	0.01	ND	0.01	BMDL-B	0.01
Copper	ND	0.01	BMDL-B	0.01	ND	0.01
Lead	ND	0.075	ND	0.075	ND	0.075
Mercury	ND	0.0002	ND	0.0002	BMDL-B	0.0002
Nickel	ND	0.02	ND	0.02	ND	0.02
Selenium	ND	0.005	ND	0.005	ND	0.005
Silver	ND	0.01	ND	0.01	ND	0.01
Thallium	ND	0.01	ND	0.01	BMDL-B	0.01
Zinc	ND	0.02	ND	0.02	BMDL-B	0.02
Chromium, Hexavalent	ND	0.01	ND	0.01	ND	0.01
Cyanide	ND	0.1	ND	0.025	ND	0.025

CONC. – Concentration of Compound
D.L. – Detection Limit
ND – Not detected
BMDL – Present below detection limit, estimated concentration not reported by laboratory
B – Compound also detected in laboratory blanks

TABLE 5-12
SUMMARY OF PHASE II GROUNDWATER ANALYTICAL DATA
VOLATILES, SEMIVOLATILES, AND METALS
SCCC, KEARNY, NJ

LAB NUMBER	CB2194		CB-2184		CB2187		CB2196		CB2195		CB2189		CB2190		CB2188	
SAMPLE NUMBER	MW-2		MW-3		MW-4		MW-5		MW-8		MW-9		MW-10		MW-12	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
VOC Compound (ug/L)																
Methylene chloride	25 JB	50	65 J	100	180 J	250	56 B	50	420 J	500	32 J	50	28	25	46 JB	100
Vinyl chloride	ND	50	ND	100	ND	250	ND	50	350 J	500	ND	50	ND	25	ND	100
1,2-Dichloroethene	ND	50	ND	100	ND	250	ND	50	190 J	500	82 J	250	ND	25	ND	100
Trichloroethylene	ND	50	ND	100	40 J	250	ND	50	5600	500	ND	50	ND	25	52 J	100
Benzene	55	50	56 J	100	250 J	250	23 J	50	430 J	500	85 J	250	160	25	260	100
Tetrachloroethylene	ND	50	ND	100	ND	250	ND	50	2000	500	40 J	50	ND	25	16 J	100
Toluene	6 JB	50	23 J	100	210 J	250	ND	50	ND	500	ND	50	150	25	770	100
Chlorobenzene	380	50	1100	100	300	250	310	50	5200	500	ND	50	140	25	400	100
Ethylbenzene	ND	50	ND	100	52 J	250	ND	50	ND	500	ND	50	73	25	100	100
Carbon disulfide	ND	50	ND	100	ND	250	ND	50	ND	500	ND	50	ND	25	ND	100
Xylene (total)	ND	50	ND	100	95 J	250	ND	50	120 J	500	47 J	250	400	25	600	100
Styrene	ND	50	ND	100	ND	250	ND	50	ND	500	ND	50	ND	25	92 J	100
Acetone	ND	50	ND	100	ND	250	ND	50	ND	500	500	250	310	25	ND	100
BNAs (ug/L)																
Phenol	ND	560	ND	530	150 J	530	31 J	62	2100	670	360000	56000	230000	31000	91000	26000
2-Chlorophenol	58 J	560	ND	530	ND	530	25 J	62	ND	670	ND	5600	ND	620	ND	2600
2-Methylphenol	670	560	ND	530	570	530	ND	62	450 J	670	18000	5600	58000	31000	38000	26000
2,4-Dichlorophenol	180 J	560	120 J	530	ND	530	190	62	ND	670	ND	5600	ND	620	ND	2600
2,4,6-Trichlorophenol	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
1,3-Dichlorobenzene	9800	2200	7500	2100	8000	2100	3000	620	15000	3300	ND	5600	ND	620	2800	2600
1,4-Dichlorobenzene	14000	2200	11000	2100	11000	2100	4900	620	18000	3300	ND	5600	380 J	620	5400	2600
1,2-Dichlorobenzene	13000	2200	11000	2100	9600	2100	5100	620	16000	3300	ND	5600	640	620	12000	2600
1,2,4-Trichlorobenzene	140 J	560	62 J	530	120 J	530	ND	62	12000	3300	ND	5600	ND	620	5600	2600
Naphthalene	ND	560	ND	530	68 J	530	ND	62	7200	3300	ND	5600	2400	620	19000	2600
Acenaphthalene	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
Acenapthene	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
Fluorene	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
Hexachlorobenzene	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
Phenathrene	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
Anthracene	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
Fluoranthene	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
Pyrene	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
bis(2-Ethylhexyl)phthalate	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
4-Methylphenol	ND	560	ND	530	710	530	ND	62	1700	670	170000	56000	200000	31000	140000	26000
2,4-Dimethylphenol	ND	560	ND	530	3200	530	ND	62	920	670	6800	5600	31000 J	31000	38000	26000
2-Methylnaphthalene	ND	560	ND	530	ND	530	ND	62	150 J	670	ND	5600	960	620	1500 J	2600
Di-benzofuran	ND	560	ND	530	ND	530	ND	62	ND	670	ND	5600	ND	620	ND	2600
Metals (ug/L)																
Chromium	22.6	10	27.8	10	1210	10	5100	10	1440	10	9560	10	1290	10	118	10
Lead	7.74	1	6.62	1	1.78	1	ND	1	41.6	1	ND	1	3.79	1	8.52	1

CONC. – Concentration of compound
D.L. – Detection Limit
ND – Not detected
NA – Not analyzed
J – Estimated concentration of compound detected below the detection limit
B – Analyte found in laboratory blank sample

STAN-CL2\GWDTVOC.WK3

TABLE 5-12 (Continued)
SUMMARY OF PHASE II GROUNDWATER ANALYTICAL DATA
VOLATILES, SEMIVOLATILES, AND METALS
SCCC, KEARNY, NJ

LAB NUMBER	CB2185		CB2191		CB2192		CB2718		CB2186		CB2197		CB2200	
SAMPLE NUMBER	MW-14L		MW-14L Dup		MW-15		TPZ-1		TPZ-2		Field Blank		Trip Blank	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
VOC Compound (ug/L)														
Methylene chloride	27 B	20	16 J	20	190 J	250	3 JB	10	6 J	10	7 J	10	7 J	10
Vinyl chloride	ND	20	ND	20	ND	250	ND	10	ND	10	ND	10	ND	10
1,2-Dichloroethene	ND	20	ND	20	ND	250	ND	10	ND	10	ND	10	ND	10
Trichloroethylene	71	20	75	20	ND	250	2 JB	10	ND	10	ND	10	ND	10
Benzene	140	20	140	20	1700	250	3 J	10	ND	10	ND	10	ND	10
Tetrachloroethylene	24	20	21	20	ND	250	ND	10	ND	10	ND	10	ND	10
Toluene	200	20	210	20	ND	250	ND	10	4 J	10	ND	10	ND	10
Chlorobenzene	48	20	51	20	1200	250	ND	10	ND	10	ND	10	ND	10
Ethylbenzene	55	20	63	20	ND	250	ND	10	ND	10	ND	10	ND	10
Carbon disulfide	25	20	30	20	ND	250	ND	10	ND	10	ND	10	ND	10
Xylene (total)	200	20	250	20	ND	250	ND	10	ND	10	ND	10	ND	10
Styrene	ND	20	ND	20	ND	250	ND	10	ND	10	ND	10	ND	10
Acetone	ND	20	ND	20	ND	250	7 J	10	ND	10	ND	10	ND	10
BNAs (ug/L)														
Phenol	31000	11000	29000	11000	280 J	560	ND	10	ND	13	ND	10	NA	NA
2-Chlorophenol	ND	560	ND	560	58 J	560	ND	10	ND	13	ND	10	NA	NA
2-Methylphenol	14000	11000	14000	11000	ND	560	ND	10	ND	13	ND	10	NA	NA
2,4-Dichlorophenol	ND	560	ND	560	350 J	560	ND	10	ND	13	ND	10	NA	NA
2,4,6-Trichlorophenol	ND	560	ND	560	ND	560	ND	10	ND	13	ND	10	NA	NA
1,3-Dichlorobenzene	1900	560	1400	560	21000	5600	ND	10	ND	13	ND	10	NA	NA
1,4-Dichlorobenzene	2700	560	2100	560	33000	5600	ND	10	ND	13	ND	10	NA	NA
1,2-Dichlorobenzene	2100	560	1600	560	33000	5600	ND	10	ND	13	ND	10	NA	NA
1,2,4-Trichlorobenzene	26000	11000	21000	11000	190 J	560	ND	10	ND	13	ND	10	NA	NA
Naphthalene	6400 J	11000	4700	560	ND	560	6 J	10	3 J	13	ND	10	NA	NA
Acenaphthalene	ND	560	ND	560	ND	560	ND	10	ND	13	ND	10	NA	NA
Acenapthene	180 J	560	140 J	560	ND	560	2 J	10	4 J	13	ND	10	NA	NA
Fluorene	32 J	560	ND	560	ND	560	ND	10	3 J	13	ND	10	NA	NA
Hexachlorobenzene	ND	560	ND	560	ND	560	ND	10	ND	13	ND	10	NA	NA
Phenathrene	ND	560	ND	560	ND	560	ND	10	10 J	13	ND	10	NA	NA
Anthracene	ND	560	ND	560	ND	560	ND	10	ND	13	ND	10	NA	NA
Fluoranthene	ND	560	ND	560	ND	560	2 J	10	6 J	13	ND	10	NA	NA
Pyrene	ND	560	ND	560	ND	560	2 J	10	6 J	13	ND	10	NA	NA
bis(2-Ethylhexyl)phthalate	ND	560	ND	560	ND	560	8 JB	10	ND	13	ND	10	NA	NA
4-Methylphenol	48000	11000	46000	11000	ND	560	ND	10	ND	13	ND	10	NA	NA
2,4-Dimethylphenol	18000	11000	17000	11000	ND	560	14	10	ND	13	ND	10	NA	NA
2-Methylnaphthalene	770	560	590	560	ND	560	ND	10	ND	13	ND	10	NA	NA
Di-benzofuran	69 J	560	ND	560	ND	560	ND	10	ND	13	ND	10	NA	NA
Metals (ug/L)														
Chromium	272	10	278	10	18.1	10	155	10	35.5	10	ND	10	NA	NA
Lead	21.2	1	ND	1	848	1	61.1	1	13.7	1	ND	1	NA	NA

CONC. – Concentration of compound
D.L. – Detection Limit
ND – Not detected
NA – Not analyzed
J – Estimated concentration of compound detected below the detection limit
B – Analyte found in laboratory blank sample

STAN-CL2GWDTVOC.WK1

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TABLE 3-3

GROUNDWATER ANALYTICAL RESULTS
STANDARD CHLORINE CHEMICAL COMPANY

CONSTITUENT: (Units in ug/l)	NEW JERSEY CLASS II-A GROUNDWATER QUALITY CRITERIA	SITE: DATE:	SC-MW-16L 2/2/99	SC-MW-17L 2/2/99	SC-MW-17L 2/2/99 DILUTED SAMPLE
Benzo(a)pyrene	0.003		< 50	< 10	< 1000
2,4-Dinitrophenol	10		< 250	< 50	< 5000
Dibenz(a,h)anthracene	0.003		< 50	< 10	< 1000
Benzo(a)anthracene	0.03		< 50	< 10	< 1000
4-Chloro-3-methylphenol			< 50	< 10	< 1000
Hexachloroethane	0.7		< 50	< 10	< 1000
Hexachlorocyclopentadiene	50		< 50	< 10	< 1000
Isophorone	100		< 50	< 10	< 1000
Acenaphthene	400		< 50	< 10	< 1000
Diethylphthalate	5000		< 50	< 10	< 1000
Di-n-butylphthalate	900		< 50	< 10	< 1000
Phenanthrene			< 50	< 10	< 1000
Butyl benzyl phthalate	100		< 50	< 10	< 1000
N-Nitrosodiphenylamine	7		< 50	< 10	< 1000
Fluorene	300		< 50	< 10	< 1000
Carbazole			< 50	< 10	< 1000
Hexachlorobutadiene	1		< 50	< 10	< 1000
Pentachlorophenol	0.3		< 250	< 50	< 5000
2,4,6-Trichlorophenol	3		< 50	< 10	< 1000
2-Nitroaniline			< 250	< 50	< 5000
2-Nitrophenol			< 50	< 10	< 1000
Naphthalene			6 J	12	< 1000
2-Methylnaphthalene			< 50	< 10	< 1000
2-Chloronaphthalene			< 50	< 10	< 1000
3,3'-Dichlorobenzidine	0.08		< 50	< 10	< 1000
2-Methylphenol			< 50	< 10	< 1000
1,2-Dichlorobenzene	600		330	[3800] E	[12000] D
2-Chlorophenol	40		< 50	25	< 1000
2,4,5-Trichlorophenol	700		< 250	< 50	< 5000
Nitrobenzene	3		< 50	< 10	< 1000
3-Nitroaniline			< 250	< 50	< 5000
4-Nitroaniline			< 250	< 50	< 5000
4-Nitrophenol			< 250	< 50	< 5000
4-Bromophenyl phenyl ether			< 50	< 10	< 1000
2,4-Dimethylphenol	100		< 50	< 10	< 1000
4-Methylphenol			< 50	< 10	< 1000
1,4-Dichlorobenzene	75		[540]	[3500] E	[11000] D
4-Chloroaniline			< 50	< 10	< 1000
Phenol	4000		< 50	< 10	< 1000
Bis(2-chloroethyl)ether	0.03		< 50	< 10	< 1000
Bis(2-chloroethoxy) methane			< 50	< 10	< 1000
Bis(2-ethylhexyl)phthalate	3		< 50	< 10	< 1000
Di-n-octylphthalate	100		< 50	< 10	< 1000
Hexachlorobenzene	0.02		< 50	< 10	< 1000
Anthracene	2000		< 50	< 10	< 1000
1,2,4-Trichlorobenzene	9		< 50	[17]	< 1000
2,4-Dichlorophenol	20		< 50	6 J	< 1000
2,4-Dinitrotoluene	0.05		< 50	< 10	< 1000
Pyrene	200		< 50	< 10	< 1000

TABLE 3-3

GROUNDWATER ANALYTICAL RESULTS
STANDARD CHLORINE CHEMICAL COMPANY

CONSTITUENT: (Units in ug/l)	NEW JERSEY CLASS II-A GROUNDWATER QUALITY CRITERIA	SITE: DATE:	SC-MW-16L 2/2/99	SC-MW-17L 2/2/99	SC-MW-17L 2/2/99 DILUTED SAMPLE
Dimethylphthalate	7000		< 50	< 10	< 1000
Dibenzofuran			< 50	< 10	< 1000
Benzo(g,h,i)perylene			< 50	< 10	< 1000
Indeno(1,2,3-cd)pyrene	0.03		< 50	< 10	< 1000
Benzo(b)fluoranthene	0.03		< 50	< 10	< 1000
Fluoranthene	300		< 50	< 10	< 1000
Benzo(k)fluoranthene	0.03		< 50	< 10	< 1000
Acenaphthylene			< 50	< 10	< 1000
Chrysene	0.03		< 50	< 10	< 1000
4,6-Dinitro-2-methylphenol			< 250	< 50	< 5000
1,3-Dichlorobenzene	600		460	[4100] E	[7400] D
2,6-Dinitrotoluene			< 50	< 10	< 1000
N-Nitrosodi-n-propylamine	0.005		< 50	< 10	< 1000
4-Chlorophenyl phenyl ether			< 50	< 10	< 1000
2,2'-oxybis(1-chloropropane)			< 50	< 10	< 1000

[ ] - Indicates sample concentration greater than New Jersey Class II-A Groundwater Quality Criteria.
J - Estimated concentration less than the method detection limit.
D - Sample concentration determined by analysis of diluted sample.
E - Estimated minimum value, concentration greater than instrument calibration range.

E.4 Bedrock Groundwater Data

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TABLE 2-1A

FORMER PRODUCTION WELL
GROUNDWATER ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL COMPANY

SITE: SAMPLE ID: DATE: DEPTH (ft):		SC-PW PW-88 10/8/98 88	SC-PW PW-228 10/8/98 228	SC-PW PW-360 10/8/98 360
CONSTITUENT:	UNITS			
1,1,1-Trichloroethane	ug/L	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/L	0.9 U	0.9 U	0.9 U
1,1,2-Trichloroethane	ug/L	1.9 U	1.9 U	1.9 U
1,1-Dichloroethane	ug/L	0.6 U	0.6 U	0.6 U
1,1-Dichloroethylene	ug/L	1.1 U	1.1 U	1.1 U
1,2-Dichloroethane	ug/L	1.3 U	1.3 U	1.3 U
1,2-Dichloropropane	ug/L	0.5 U	0.5 U	0.5 U
2-Hexanone	ug/L	3 U	3 U	3 U
Acetone	ug/L	38 B	10 B	6.2 JB
Benzene	ug/L	0.7 U	0.7 U	0.7 U
Bromodichloromethane	ug/L	0.8 U	0.8 U	0.8 U
Bromoform	ug/L	2.5 U	2.5 U	2.5 U
Carbon disulfide	ug/L	2.4 U	2.4 U	2.4 U
Carbon tetrachloride	ug/L	1 U	1 U	1 U
Chlorobenzene	ug/L	1.1 U	1.1 U	1.1 U
Chloroethane	ug/L	1.3 U	1.3 U	1.3 U
Chloroform	ug/L	0.8 U	0.8 U	0.8 U
cis-1,2-Dichloroethylene	ug/L	0.8 U	0.8 U	0.8 U
cis-1,3-Dichloropropene	ug/L	0.7 U	0.7 U	0.7 U
Dibromochloromethane	ug/L	1.7 U	1.7 U	1.7 U
Ethylbenzene	ug/L	2.2 U	2.2 U	2.2 U
Methyl bromide	ug/L	2.3 U	2.3 U	2.3 U
Methyl chloride	ug/L	7.7 U	7.7 U	7.7 U
Methyl ethyl ketone	ug/L	2.5 JB	2.4 JB	2.5 U
Methyl isobutyl ketone (MIBK)	ug/L	2.7 U	2.7 U	2.7 U
Methylene chloride	ug/L	1.2 U	1.2 U	1.2 U
Styrene	ug/L	1.8 U	1.8 U	1.8 U
Tetrachloroethylene	ug/L	0.8 U	0.8 U	0.8 U
Toluene	ug/L	0.8 U	0.8 U	0.8 U
trans-1,2-Dichloroethene	ug/L	0.7 U	0.7 U	0.7 U
trans-1,3-Dichloropropene	ug/L	1.5 U	1.5 U	1.5 U
Trichloroethylene	ug/L	0.6 U	0.6 U	0.6 U
Vinyl chloride	ug/L	1.2 U	1.2 U	1.2 U
Xylenes	ug/L	1.3 U	1.3 U	1.3 U

U indicates constituent not detected at listed detection limit.
B indicates constituent detected in associated blank.
J indicates estimated constituent value.

TABLE 2-1B

FORMER PRODUCTION WELL
GROUNDWATER ANALYTICAL RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL COMPANY

SITE: SAMPLE ID: DATE: DEPTH (ft):		SC-PW PW-88 10/8/98 88	SC-PW PW-228 10/8/98 228	SC-PW PW-360 10/8/98 360
CONSTITUENT:	UNITS			
SEMI-VOLATILES				
1,2,4-Trichlorobenzene	ug/L	0.44 U	0.44 U	0.44 U
2,4,5-Trichlorophenol	ug/L	0.42 U	0.42 U	0.42 U
2,4,6-Trichlorophenol	ug/L	0.58 U	0.58 U	0.58 U
2,4-Dichlorophenol	ug/L	0.54 U	0.54 U	0.54 U
2,4-Dimethylphenol	ug/L	0.54 U	0.54 U	0.54 U
2,4-Dinitrophenol	ug/L	12 U	12 U	12 U
2,4-Dinitrotoluene	ug/L	0.28 U	0.28 U	0.28 U
2,6-Dinitrotoluene	ug/L	0.39 U	0.39 U	0.39 U
2-Chloronaphthalene	ug/L	0.42 U	0.42 U	0.42 U
2-Chlorophenol	ug/L	0.85 U	0.85 U	0.85 U
2-Methylnaphthalene	ug/L	0.34 U	0.34 U	0.34 U
3,3-Dichlorobenzidine	ug/L	3.6 U	3.6 U	3.6 U
4,6-Dinitro-o-cresol	ug/L	0.45 U	0.45 U	0.45 U
4-Bromophenyl phenyl ether	ug/L	0.6 U	0.6 U	0.6 U
4-Chlorophenyl phenyl ether	ug/L	0.4 U	0.4 U	0.4 U
Acenaphthene	ug/L	0.48 U	0.48 U	0.48 U
Acenaphthylene	ug/L	0.38 U	0.38 U	0.38 U
Anthracene	ug/L	0.41 U	0.41 U	0.41 U
Benzo(a)anthracene	ug/L	2.2	2.4	3
Benzo(a)pyrene	ug/L	3.8	4.4	5.6
Benzo(b)fluoranthene	ug/L	5.2	4.9	6.9
Benzo(ghi)perylene	ug/L	3.5	4.2	5.3
Benzo(k)fluoranthene	ug/L	1.3	1.9	2.2
Bis(2-chloro-1-methylethyl) ether	ug/L	0.68 U	0.68 U	0.68 U
Bis(2-chloroethoxy)methane	ug/L	0.39 U	0.39 U	0.39 U
Bis(2-chloroethyl)ether	ug/L	0.28 U	0.28 U	0.28 U
Bis(2-ethylhexyl)phthalate (BEHP)	ug/L	1.9	5.4	5.8
Butyl benzyl phthalate	ug/L	0.54 U	0.54 U	0.54 U
Carbazole	ug/L	0.41 U	0.41 U	0.41 U
Carbolic acid	ug/L	0.45 U	0.45 U	0.45 U
Chrysene	ug/L	2.6	3	4.1
Dibenzo(a,h)anthracene	ug/L	0.47 U	0.47 U	1
Dibenzofuran	ug/L	0.42 U	0.42 U	0.42 U
Diethyl phthalate	ug/L	0.45 U	0.45 U	0.45 U
Dimethyl phthalate	ug/L	0.43 U	0.43 U	0.43 U
Di-n-butyl phthalate	ug/L	0.85 U	0.85 U	0.85 U

TABLE 2-1B

FORMER PRODUCTION WELL
GROUNDWATER ANALYTICAL RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL COMPANY

SITE: SAMPLE ID: DATE: DEPTH (ft):		SC-PW PW-88 10/8/98 88	SC-PW PW-228 10/8/98 228	SC-PW PW-360 10/8/98 360
CONSTITUENT:	UNITS			
SEMI-VOLATILES (Continued)				
Di-n-octyl phthalate	ug/L	0.43 U	0.43 U	0.43 U
Fluoranthene	ug/L	2.8	3	3.7
Fluorene	ug/L	0.33 U	0.33 U	0.33 U
Hexachlorobenzene	ug/L	0.39 U	0.39 U	0.39 U
Hexachlorobutadiene	ug/L	0.54 U	0.54 U	0.54 U
Hexachlorocyclopentadiene	ug/L	1.5 U	1.5 U	1.5 U
Hexachloroethane	ug/L	0.5 U	0.5 U	0.5 U
Indeno(1,2,3-cd)pyrene	ug/L	2.8	3.4	4.3
Isophorone	ug/L	0.3 U	0.3 U	0.3 U
m-Dichlorobenzene	ug/L	0.5 U	0.5 U	0.5 U
m-Nitroaniline	ug/L	1.4 U	1.4 U	1.4 U
Naphthalene	ug/L	0.38 U	0.38 U	0.38 U
Nitrobenzene	ug/L	0.36 U	0.36 U	0.36 U
N-Nitrosodiphenylamine	ug/L	0.42 U	0.42 U	0.42 U
N-Nitrosodipropylamine	ug/L	0.39 U	0.39 U	0.39 U
o-Cresol	ug/L	0.71 U	0.71 U	0.71 U
o-Dichlorobenzene	ug/L	0.61 U	0.61 U	0.61 U
o-Nitroaniline	ug/L	0.43 U	0.43 U	0.43 U
o-Nitrophenol	ug/L	0.58 U	0.58 U	0.58 U
p-Chloroaniline	ug/L	0.25 U	0.25 U	0.25 U
p-Chloro-m-cresol	ug/L	0.57 U	0.57 U	0.57 U
p-Cresol	ug/L	0.24 U	0.24 U	0.24 U
p-Dichlorobenzene	ug/L	0.59 U	0.59 U	0.59 U
Pentachlorophenol	ug/L	0.48 U	0.48 U	0.48 U
Phenanthrene	ug/L	1.3	1.3	1.6
p-Nitroaniline	ug/L	0.35 U	0.35 U	0.35 U
p-Nitrophenol	ug/L	4.9 U	4.9 U	4.9 U
Pyrene	ug/L	2.6	3	0.43 U

U indicates constituent not detected at listed detection limit.

TABLE 2-1C

FORMER PRODUCTION WELL
GROUNDWATER ANALYTICAL RESULTS FOR METALS
STANDARD CHLORINE CHEMICAL COMPANY

SITE:		SC-PW	SC-PW	SC-PW
SAMPLE ID:		PW-88	PW-228	PW-360
DATE:		10/8/98	10/8/98	10/8/98
DEPTH (ft):		88	228	360
CONSTITUENT:	UNITS			
Aluminum	ug/L	798	527	533
Antimony	ug/L	2.31 B	1.7 B	1.65 B
Arsenic	ug/L	2.12 B	1.525 U	1.8 B
Barium	ug/L	35.3	67.7	213
Beryllium	ug/L	0.19 B	0.27 B	0.44 B
Cadmium	ug/L	0.215 B	0.125 B	0.125 B
Calcium	ug/L	28300	30500	105000
Chromium	ug/L	989	819	890
Cobalt	ug/L	3.17 B	2.3 B	2.04 B
Copper	ug/L	15.9	33.7	30.6
Iron	ug/L	3590	2630	2070
Lead	ug/L	16.4	12.9	11.6
Magnesium	ug/L	10400	14800	77200
Manganese	ug/L	55.2	33	48.1
Mercury	ug/L	0.2 U	0.2 U	0.2 U
Nickel	ug/L	86.8	65.8	59.3
Potassium	ug/L	17000	14900	37700
Selenium	ug/L	2.63	2.02 B	3.98
Silver	ug/L	0.294 U	0.294 U	0.294 U
Sodium	ug/L	178000	232000	695000
Thallium	ug/L	2.66 B	2.36 B	2.75 B
Vanadium	ug/L	167	163	146
Zinc	ug/L	52.8	43.5	38.3

U indicates constituent not detected at listed detection limit.
B indicates reported value is < CRDL but > IDL

E.5 DNAPL Data

1996-1997 Focused Remedial Investigation

Table 2-2
DNAPL Characterization Sampling Results
Standard Chlorine Chemical Company
Kearny, New Jersey

Well No. / Date Sampled / Time Sampled / ERM TR#	MW-8L 9/19/95 1200 7461 (mg/kg)	MW-12L 9/19/95 1320 7465 (mg/kg)	MW-13L 9/19/95 1250 7464 (mg/kg)	MW-14L 9/19/95 1235 7563 (mg/kg)	Practical Quantitation Limit (mg/kg)	EB-1 9/19/95 1225 7462 (mg/L)	TB-1 9/19/95 1400 7466 (mg/L)
trichloroethylene	8,600	U	U	U	2,500	U	U
tetrachloroethylene	11,000	U	U	U	2,500	U	U
chlorobenzene	9,000	1,700 J	U	U	2,500	U	U
1,3-dichlorobenzene	74,000 J	40,000	3,600 J	41,000	5,000	U	U
1,2-dichlorobenzene	160,000	99,000	12,000	45,000	5,000	U	U
1,4-dichlorobenzene	68,000 J	49,000	6,500	54,000 J	5,000	U	U
naphthalene	41,000 J	200,000	150,000	75,000	2,500	U	U
1,2,4-trichlorobenzene	620,000	160,000	99,000	770,000	2,500	U	U
viscosity (SSU)	30	NA	37	NA		NA	NA
specfic gravity (unitless)	1.3789	NA	1.3373	NA		NA	NA

Notes:
J: Indicates an estimated value
U: Indicates compounds was analyzed for but not detected
NA: Not analyzed
EB: Equipment blank
TB: Travel Blank

Table 3-2
Summary of FRI DNAPL Measurements
Standard Chlorine Chemical Company
Kearny, New Jersey Facility

Well No.	Date	DNAPL Thickness (ft)**	Approx. Depth Well is Set into Confining Clay (ft)
MW-4L	7/15/96	0.25	-
PZ-4D	7/15/96	1.20	-
MW-8L	7/15/96	2.26	2.4
MW-12L	7/15/96	1.34	2.1
MW-13L	7/15/96	1.91	1.5
MW-14L	7/15/96	0.90	1.5

E.6 Surface Water/Sediment Data

1990-1993 Remedial Investigation

TABLE 5-7
SUMMARY OF SURFACE WATER ANALYTICAL DATA
VOLATILES AND SEMIVOLATILES
SCCC, KEARNY, NJ

LAB NUMBER	HA-3586		HA-3588		HA-3584		HA-3587		HA-3585		HA-3558		CB2717		HA-3575		HA-3602	
SAMPLE NUMBER	SSW-1		SSW-2		SSW-3		SSW-4		SSW-5		SSW-5-Dup		SSW-6		Field Blank		Trip Blank	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
VOC Compound (ug/L)																		
Benzene	ND	22.0	9.7	4.4	ND	22.0	39.8	22.0	7.9	4.4	6.1	4.4	ND	10	ND	4.4	ND	4.4
Chlorobenzene	414.0	30.0	86.0	6.0	332.0	30.0	329.0	30.0	128.0	6.0	107.0	6.0	ND	10	ND	6.0	ND	6.0
Ethylbenzene	ND	36.0	BMDL	7.2	ND	36.0	ND	36.0	BMDL	7.2	ND	7.2	ND	10	ND	7.2	ND	7.2
Methylene chloride	ND	14.0	BMDL	2.8	ND	14.0	ND	14.0	ND	2.8	ND	2.8	3 J	10	ND	2.8	ND	10.0
1,2-Trans-dichloroethene	ND	8.0	ND	1.6	ND	8.0	21.0	8.0	1.7	1.6	1.7	1.6	ND	10	ND	1.6	ND	1.6
Toluene	ND	30.0	6.2	6.0	BMDL	30.0	ND	30.0	BMDL	6.0	ND	6.0	ND	10	BMDL	6.0	BMDL	6.0
Trichloroethene	ND	9.5	ND	1.9	ND	9.5	ND	9.5	ND	1.9	ND	1.9	ND	10	2.0	1.9	ND	1.9
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	10	NA	NA	NA	NA
BNA Compound (ug/L)																		
Acenaphthene	ND	2.0	12.3	2.0	ND	2.1	ND	2.0	ND	2.2	ND	2.1	93	57	ND	2.0	NA	NA
Acenaphtylene	ND	3.6	BMDL	3.7	ND	3.8	ND	3.7	ND	4.0	ND	3.8	ND	57	ND	3.7	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52 J	57	NA	NA	NA	NA
1,2-Dichlorobenzene	171.0	2.0	224.0	2.0	542.0	2.1	2740.0	2.0	321.0	2.2	320.0	2.1	170	57	ND	2.0	NA	NA
1,3-Dichlorobenzene	296.0	2.0	85.5	2.0	432.0	2.1	2920.0	2.0	278.0	2.2	288.0	2.1	82	57	ND	2.0	NA	NA
1,4-Dichlorobenzene	369.0	4.6	192.0	4.6	517.0	4.8	4680.0	4.7	385.0	5.0	394.0	4.8	240	57	ND	4.7	NA	NA
Fluorene	ND	2.0	2.8	2.0	ND	2.1	ND	2.0	ND	2.2	ND	2.1	26 J	57	ND	2.0	NA	NA
Isophorone	ND	2.3	ND	2.3	ND	2.4	ND	2.3	5.2	2.5	5.5	2.4	ND	57	ND	2.3	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41 J	57	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	340	57	NA	NA	NA	NA
Naphthalene	9.1	1.7	260.0	1.7	16.4	1.8	4.0	1.7	7.1	1.8	6.8	1.7	81	57	ND	1.7	NA	NA
Phenanthrene	ND	5.6	BMDL	5.7	ND	5.9	ND	5.7	ND	6.1	ND	5.9	9 J	57	ND	5.7	NA	NA
1,2,4-Trichlorobenzene	ND	2.0	78.5	2.0	49.3	2.1	51.0	2.0	30.2	2.2	30.4	2.1	34 J	57	ND	2.0	NA	NA
2-Chlorophenol	3.9	3.4	ND	3.5	3.8	3.6	ND	3.5	BMDL	3.8	BMDL	3.6	ND	57	ND	3.5	NA	NA
2,4-Dichlorophenol	BMDL	2.8	ND	2.8	ND	3.0	19.8	2.9	ND	3.1	7.1	2.9	ND	57	ND	2.9	NA	NA
2,4-Dimethylphenol	17.6	2.8	60.4	2.8	ND	3.0	ND	2.9	ND	3.1	ND	2.9	1000	230	ND	2.9	NA	NA
Phenol	29.0	1.6	241.0	1.6	ND	1.6	ND	1.6	ND	1.7	ND	1.6	8 J	57	ND	1.6	NA	NA
Phenolics	0.07	0.05	0.43	0.05	ND	0.05	0.05	0.05	ND	0.05	ND	0.05	NA	NA	NA	NA	NA	NA

CONC. – Concentration of compound
D.L. – Detection Limit
ND – Not detected
NA – Not analyzed
J – Estimated concentration of compound detected below the detection limit
BMDL – Present below method detection limit, estimated concentration not reported by laboratory

TABLE 5-7 (Continued)
SUMMARY OF SURFACE WATER ANALYTICAL DATA
METALS
SCCC, KEARNY, NJ

LAB NUMBER SAMPLE NUMBER	HA-3586 SSW-1 CONC.	D.L.	HA-3588 SSW-2 CONC.	D.L.	HA-3584 SSW-3 CONC.	D.L.	HA-3587 SSW-4 CONC.	D.L.	HA-3585 SSW-5 CONC.	D.L.	HA-3558 SSW-5-Dup CONC.	D.L.	CB2717 SSW-6 CONC.	D.L.
Metals (mg/L)														
Antimony	BMDL	0.060	ND	0.060	ND	0.060	BMDL	0.060	ND	0.060	ND	0.060	ND	24
Arsenic	ND	0.010	ND	0.010	ND	0.010	0.010	0.010	ND	0.010	ND	0.010	BMDL	5
Beryllium	ND	0.001	ND	0.001	ND	0.001	0.002	0.001	ND	0.001	ND	0.001	ND	0.2
Cadmium	BMDL	0.002	BMDL	0.002	0.002	0.002	0.017	0.002	0.003	0.002	0.003	0.002	ND	3
Chromium	6.290	0.010	0.320	0.010	0.480	0.010	8.640	0.010	0.160	0.010	0.540	0.010	1240	10
Copper	0.023	0.010	BMDL	0.010	BMDL	0.010	0.200	0.010	BMDL	0.010	0.020	0.010	173	10
Lead	ND	0.075	ND	0.075	ND	0.075	1.000	0.075	BMDL	0.075	0.260	0.075	136	1
Mercury	BMDL	0.000	BMDL	0.000	ND	0.000	ND	0.000	ND	0.000	0.000	0.000	19.4	0.2
Nickel	ND	0.020	BMDL	0.020	BMDL	0.020	0.350	0.020	0.037	0.020	0.046	0.020	982	20
Selenium	ND	0.005	ND	0.005	ND	0.005	0.005	0.005	BMDL	0.005	BMDL	0.005	ND	2
Silver	0.013	0.010	BMDL	0.010	BMDL	0.010	BMDL	0.010	BMDL	0.010	BMDL	0.010	ND	2
Thallium	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	2
Zinc	0.360	0.020	0.230	0.020	0.058	0.020	1.600	0.020	0.580	0.020	0.350	0.020	487	20
Cyanide	ND	0.025	ND	0.025	ND	0.025	ND	0.025	ND	0.025	ND	0.025	ND	1

CONC. – Concentration of compound
D.L. – Detection Limit
ND – Not detected
BMDL – Present below method detection limit, estimated concentration not reported by laboratory

TABLE 5-8
SUMMARY OF SEDIMENT ANALYTICAL DATA
VOLATILES AND SEMIVOLATILES
SCCC, KEARNY, NJ

LAB NUMBER	HA3579		HA3581		HA3580		HA3577		HA3578		HA3576		HA3582		CB-2174	
SAMPLE NUMBER	S-1		SSW-1		S-2		SSW-2		SSW-3		SSW-4		SSW-5		SSW-6	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
VOC Compound (ug/kg)																
Benzene	ND	16	14.9	13	58.4	58	BMDL	16	ND	8100	ND	18000	ND	1500	5 J	65
Chlorobenzene	ND	21	1484	18	1950	79	38.5	21	42100	11000	140000	24000	9640	2000	870	65
Methylene chloride	ND	10	13.6	8.2	61.1	37	ND	10	BMDL	5200	15000	11000	1360	930	23 JB	65
Toluene	ND	21	ND	18	BMDL	79	ND	21	ND	11000	ND	24000	ND	2000	11 J	65
Ethylbenzene	ND	26	ND	21	ND	95	ND	26	ND	13000	ND	29000	ND	2400	45 J	65
Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49 J	65
BNA Compound (ug/kg)																
Acenaphthene	ND	680	ND	5600	ND	2500	BMDL	680	7860	7000	BMDL	7600	BMDL	13000	2300	430
Anthracene	ND	680	ND	5600	ND	2500	ND	680	BMDL	7000	ND	7600	ND	13000	500	430
Benzo(a)anthracene	ND	2800	ND	23000	ND	10000	BMDL	2800	BMDL	29000	BMDL	31000	ND	52000	1100	430
Benzo(a)pyrene	ND	890	ND	7300	ND	3300	ND	890	37700	9200	27900	10000	ND	17000	1200	430
Benzo(b)fluoranthene	ND	1700	ND	14000	ND	6300	ND	1700	37700	18000	44600	19000	ND	32000	2400	430
Benzo(g,h,i)perylene	ND	1500	ND	12000	ND	5300	ND	1500	36200	15000	23900	16000	ND	27000	1200	430
Bis(2-ethylhexyl)phthalate	17800	3600	BMDL	29000	ND	13000	ND	3600	ND	37000	65500	40000	188000	67000	ND	430
Carabzole	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 J	430
Chrysene	ND	890	ND	7300	ND	3300	1100	890	28000	9200	33600	10000	ND	17000	1200	430
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1000	430
Di-n-Butylphthalate	ND	8600	ND	29000	ND	13000	ND	3600	ND	37000	ND	40000	ND	67000	170 J	430
1,2-Dichlorobenzene	BMDL	680	ND	5600	125000	2500	ND	680	723000	7000	1070000	7600	13300	13000	1100	430
1,3-Dichlorobenzene	1470	680	ND	5600	109000	2500	ND	680	593000	7000	1010000	7600	35200	13000	800	430
1,4-Dichlorobenzene	2090	1600	ND	13000	202000	5700	ND	1600	637000	16000	1170000	18000	48500	29000	1900	430
Fluoranthene	BMDL	780	ND	6400	BMDL	2900	3950	780	31500	8100	487000	8800	BMDL	15000	2100	430
Fluorene	ND	680	ND	5600	ND	2500	ND	680	BMDL	7000	ND	7600	ND	13000	1000	430
Indeno(1,2,3-cd)pyrene	ND	1300	ND	11000	ND	4800	ND	1300	48300	14000	27800	15000	ND	25000	1500	430
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	430
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1600	430
Naphthalene	ND	570	ND	4700	ND	2100	879	570	234000	5900	8800	6400	ND	11000	3400	430
Phenanthrene	BMDL	1900	ND	16000	BMDL	7000	4880	1900	23500	20000	47400	22000	ND	36000	1800	430
Pyrene	BMDL	680	ND	5600	BMDL	2500	3350	680	28500	7000	41800	7600	ND	13000	1700	430
1,2,4-Trichlorobenzene	776	680	ND	5600	60200	2500	ND	680	190000	7000	257000	7600	ND	13000	590	430
2,4-Dimethylphenol	ND	960	ND	7900	ND	3500	ND	960	ND	10000	ND	11000	ND	18000	ND	430
Phenol	ND	530	ND	4400	ND	2000	ND	530	ND	5000	ND	6000	ND	10000	ND	430
Phenolics	ND	0.57	ND	0.47	ND	0.21	ND	0.57	ND	0.59	0.69	0.64	ND	1.10	NA	NA

CONC. – Concentration of compound
D.L. – Detection Limit
NA – Not analyzed
ND – Not detected
J – Estimated concentration of compound detected below the detection limit
B – Compound also found in laboratory blank
BMDL – Present below method detection limit, estimated concentration not reported by laboratory.

TABLE 5-8 (Continued)
SUMMARY OF SEDIMENT ANALYTICAL DATA
METALS
SCCC, KEARNY, NJ

LAB NUMBER	HA3579		HA3581		HA3580		HA3577		HA3578		HA3576		HA3582		CB-2174	
SAMPLE NUMBER	S-1		SSW-1		S-2		SSW-2		SSW-3		SSW-4		SSW-5		SSW-6	
	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.	CONC.	D.L.
Metals (ug/kg)																
Antimony	26.00	21.00	100.00	17.00	BMDL	7.90	40.00	21.00	130.0	22.00	91.00	24.00	120.0	41.00	20.7	24
Arsenic	5.20	3.60	11.00	2.90	8.40	1.30	BMDL	3.60	14.0	3.70	20.00	4.00	21.0	6.90	29.6	4
Beryllium	BMDL	0.36	0.78	0.29	0.25	0.13	0.51	0.36	1.4	0.37	ND	0.40	1.5	0.69	ND	0.4
Cadmium	2.10	0.71	4.80	0.58	1.80	0.26	4.50	0.71	8.1	0.75	BMDL	0.81	12.0	1.40	6.82	0.8
Chromium	3440.00	3.60	12700.00	2.90	100.00	1.30	5560.00	3.60	16400.0	3.70	930.00	4.00	12600.0	6.90	1090	4
Copper	40.00	3.60	73.00	2.90	66.00	1.30	25.00	3.60	170.0	3.70	220.00	4.00	250.0	6.90	401	4
Lead	51.00	27.00	140.00	22.00	390.00	9.90	70.00	27.00	1200.0	28.00	15500.00	30.00	5300.0	52.00	156	30
Mercury	0.83	0.29	1.30	0.23	0.19	0.11	1.20	0.29	1.2	0.30	0.98	0.32	3.6	0.55	24.5	0.32
Nickel	14.00	7.10	99.00	5.80	24.00	2.60	65.00	7.10	190.0	7.50	49.00	8.10	110.0	14.00	718	8.1
Selenium	BMDL	1.80	ND	1.50	BMDL	0.66	ND	1.80	ND	5.90	BMDL	2.00	BMDL	3.40	ND	2
Silver	BMDL	3.60	4.20	2.90	ND	1.30	5.10	3.60	6.0	3.70	ND	4.00	BMDL	6.90	BMDL	4
Thallium	ND	3.60	ND	2.90	ND	1.30	ND	3.60	ND	3.70	ND	4.00	ND	6.90	ND	4
Zinc	98.00	7.10	290.00	5.80	738.00	2.60	170.00	7.10	640.0	7.50	120.00	8.10	1850.0	14.00	298	8.1
Cyanide	ND	1.80	ND	1.50	ND	0.66	3.86	1.80	5.48	1.80	ND	2.00	10.33	3.30	1.5	1

CONC. – Concentration of compound
D.L. – Detection Limit
ND – Not detected
BMDL – Present below method detection limit, estimated concentration not reported by laboratory

1996-1997 Focused Remedial Investigation

Table 3-4
Summary of FRI Sediment Sample Results
Standard Chlorine Chemical Company
Kearny, New Jersey Facility

Sample ID	**Sediment**	SED-B1	SED-B2	SED-B3	SED-A1	SED-A4	SED-A2	SED-A3	SED-C1
Lab ID#	**Screening Guidelines*†**	BRI933	BRI934	BRI935	BRI936	BRI937	BRI938	BRI939	BRI940
Sample Date		08/28/96	8/29/96	8/29/96	8/29/96	08/28/96	08/28/96	08/28/96	08/28/96
Matrix	***Sediment***	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter									
VOC's (µg/kg)									
1,2,3-Trichlorobenzene	-						11.1 BMDL	18.7	
1,2,4-Trichlorobenzene	-						40.5	61.1	
1,2,4-Trimethylbenzene	-						4.51 BMDL	40.4	
1,2-Dichlorobenzene	35*	4.78 BMDL	1.95 BMDL		4.19 BMDL	7.67 BMDL	160	164	
1,3-Dichlorobenzene	-	4.45 BMDL	1.62 BMDL		18.7	31.5	145	69.6	9.11
1,4-Dichlorobenzene	110*	10.80 BMDL	3.73 BMDL	2.03 BMDL	45.4	79.1	212	160	6.17 BMDL
Benzene	-							4.68 BMDL	
Butylbenzene	-						6.52 BMDL		
Chlorobenzene	-						33.6	11.2 BMDL	
Cumene	-						5.52 BMDL	17.3	
Ethylbenzene	10*							15.7	
Methylene chloride	-				6.83 BMDL		9.3 BMDL	9.9 BMDL	8.71
Toluene	-							7.64 BMDL	
m+p-Xylenes	40*							7.79 BMDL	
p-Cymene	-						7.91 BMDL	42.8	
SVOC's (µg/kg)									
sec-Butylbenzene	-						1.84 BMDL		
Naphthalene	340/2100†	3.57 BMDL	6.88 BMDL	0.744 BMDL	2.58 BMDL	4.62 BMDL	33.5	367	

Notes:
ND = Not detected.
BMDL = Concentration detected below method detection limit
Shaded values are above the sediment standard listed.
* - Standard obtained from the Region III BTAG Screening Levels chart (8-9-95)
† - Standard obtained from the National Oceanic and Atmospheric Administration Technical Memorandum NOS OMA 52 (ER-L/ER-M Concentration)

Table 3-5
Summary of Sediment Sample Results Collected for Maxus Property Investigation
Standard Chlorine Chemical Company
Kearny, New Jersey Facility

Sample ID		SED-126A	SED-126B	SED-126C
Lab ID#	**Sediment Screening Guidelines*†**			
Sample Date		9/23/92	9/23/92	9/23/92
Matrix	***Sediment***	Sediment	Sediment	Sediment
Units	µg/kg	µg/kg	µg/kg	µg/kg
Parameter				
VOC's				
1,3-Dichlorobenzene	-	650		290,000
1,4-Dichlorobenzene	110*	***1,000***		***360,000***
1,2-Dichlorobenzene	35*			***280,000***
1,2,4-Trichlorobenzene	-	270		1,200,000
SVOC's				
Naphthalene	340/2100†	***480***	***7,600***	***170,000***
2-Methyl-napthalene	-		5,400	
Acenaphthylene	44*		***2,000***	
Acenaphthene	16*		***7,100***	
Phenanthrene	225/1380†	***620***	***43,000***	
Anthracene	85/960†		***21,000***	
Fluoranthene	-	2,500	35,000	
Pyrene	350/2200†	***2,200***	***46,000***	
Benzo(a)-anthracene	230/1600†	***1,500***	***26,000***	
bis(2-Ethylhexyl)-phthalate	-	10,000	15,000	
Chrysene	-	1,300		
Benzo(b)-fluoranthene	-	1,800	19,000	
Benzo(k)-fluoranthene	-	810		
Benzo(a)-pyrene	400/2500†	***1,400***	***17,000***	
Indeno(1,2,3-cd)-pyrene	-	540	56,000	
Benzo(g,h,i)-perylene	-	480	4,900	
1,1,1-Trichloroethane	-			3,900
Benzene	-		410	
Chlorobenzene	-		120,000	
Pesticides/PCBs				
4,4-DDE	2.2	***22***		
4,4'-DDD	16	14		
gamma-Chlordane	-	5		
Aroclor-1254	-	210		

Notes:
ND = Not detected.
BMDL = Concentration detected below method detection limit.
Values that are in bold italics and shaded are above the listed guideline.
* - Standard obtained from the Region III BTAG Screening Levels chart (8-9-95)
† - Standard obtained from the National Oceanic and Atmospheric Administration Technical Memorandum NOS OMA 52 (ER-L/ER-M Concentration).

Table 3-6
Summary of FRI Surface Water Sample Results
Standard Chlorine Chemical Company
Kearny, New Jersey Facility

Sample ID Lab ID# Sample Date Matrix Units Parameter	NJDEP Surface Water Quality Standards "SE" Classification *Surface Water* µg/L	EB-1 BRI941 08/28/96 Water µg/L	SW-3 BRI942 08/28/96 Water µg/L	SW-2 BRI943 08/28/96 Water µg/L	TB-1 BRI945 08/28/96 Water µg/L	SW-1 BRI947 08/28/96 Water µg/L	SW-4 BRI948 08/28/96 Water µg/L
VOC's							
1,2,4-Trichlorobenzene	123						1.63 BMDL
1,2-Dichlorobenzene	16,500		6.13	1.43 BMDL		1.57 BMDL	3.14 BMDL
1,3-Dichlorobenzene	22,000		4.56 BMDL				
1,4-Dichlorobenzene	3,139		6.37	1.21 BMDL		1.47 BMDL	1.8 BMDL
Chlorobenzene	21,000		2.52 BMDL				
SVOC's							
Naphthalene	NA						3.15 BMDL

Notes:
BMDL = Concentration detected below method detection limit.
NA = No standard available.

2000 Remedial Action Workplan

2000 Remedial Action Workplan
Sediment/Surface Water

TABLE 1

SUMMARY OF SEDIMENT ANALYTICAL RESULTS COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000 STANDARD CHLORINE KEARNY, NEW JERSEY

ft bgs - feet below ground surface
NLE - No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	RESIDENTIAL Direct Contact Soil Cleanup Criteria	NON-RESIDENTIAL Direct Contact Soil Cleanup Criteria	Impact to Groundwater Soil Cleanup Criteria	TPS-A1-1 310-001 1.0 01/17/00			TPS-A1-5 361-001 5.0 01/19/00			TPS-A1-10 361-002 10.0 01/19/00		
				MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--	--									
VO+10												
Benzene	3	13	1		ND			ND			0.741	
Trichloroethene	23	54	1		ND			ND			2.75	
Tetrachloroethene	4	6	1		ND			ND			1.98	
1,3-Dichlorobenzene	5100	10000	100		ND			ND			29.7	
1,4-Dichlorobenzene	280	1200	1200		ND			ND			26.4	
1,2-Dichlorobenzene	5100	10000	50		ND			ND			13.4	
Chlorobenzene	37	680	1		ND			ND			5.17	
TOTAL TARGETED VOs:	---	---	---		ND			ND			80.14	
TOTAL NON-TARGETED VOs:	---	---	---		98			3.59			5.32	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--	--									
BN+15												
Acenaphthene	3400	10000	100		ND			ND			ND	
Acenaphthylene	NLE	NLE	NLE		ND			ND			ND	
Anthracene	10000	10000	100		ND			ND			ND	
Benzo(a)anthracene	0.90	4	500		0.77	J		ND			ND	
Benzo(a)pyrene	0.66	0.66	100		ND			ND			ND	
Benzo(b)fluoranthene	0.90	4.00	50		ND			ND			ND	
Benzo(g,h,i)perylene	NLE	NLE	NLE		ND			ND			ND	
Benzo(k)fluoranthene	0.90	4.00	100		ND			ND			ND	
Bis(2-ethylhexyl)phthalate	49	210	100		ND			ND			ND	
Benzedrine	NLE	NLE	NLE		ND			ND			ND	
Chrysene	9	40	500		ND			ND			ND	
Dibenzofuran	NLE	NLE	NLE		ND			ND			ND	
Dibenzo(a,h)anthracene	0.66	0.66	100		ND			ND			ND	
Fluoranthene	2300	10000	100		1.01	J		ND			ND	
Fluorene	2300	10000	100		ND			ND			ND	
Indeno(1,2,3-cd)pyrene	0.90	4	500		ND			ND			ND	
2-Methylnaphthalene	NLE	NLE	NLE		ND			ND			ND	
Naphthalene	230	4200	100		200			0.323	J		ND	
Phenanthrene	NLE	NLE	NLE		ND			ND			ND	
Pyrene	1700	10000	100		1.01	J		ND			ND	
1,2,4-Trichlorobenzene	69	1200	100		ND			1.1			0.183	
1,3-Dichlorobenzene	5100	10000	100		ND			ND			0.729	
1,4-Dichlorobenze	570	10000	100		ND			ND			0.741	
1,2-Dichlrobenzene	5100	10000	50		ND			ND			0.137	
TOTAL TARGETED BNs:	--	--	--		202.79			1.423			1.79	
TOTAL NON-TARGETED BNs:	--	--	--		ND			ND			316.22	
Dioxin	--	--			ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
Priority Pollutant Metals												
Arsenic	20	20	NLE		19.5			0.443			1.97	
Beryllium	1	1	NLE		0.3			ND			ND	
Cadmium	1	1	NLE		0.9			ND			ND	
Chromium	120000	NLE	NLE		3,207			9.5			24.7	
Chromium, (hexvalent)	NLE	NLE	NLE		ND			ND			ND	
Copper	600	600	NLE		45.4			29.9			6.48	
Lead	400	600	NLE		131			2.84			ND	
Mercury	14	270	NLE		0.4			ND			ND	
Nickel	250	2400	NLE		208			2.68			5.34	
Silver	110	4100	NLE		ND			ND			ND	
Thallium	2	2	NLE		ND			ND			0.091	
Zinc	1500	1500	NLE		288			15.8			10	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--	--		20,000			61,000			1,800	

TABLE 1

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000
STANDARD CHLORINE
KEARNY, NEW JERSEY

ft bgs - feet below ground surfa
NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	RESIDENTIAL Direct Contact Soil Cleanup Criteria	NON-RESIDENTIAL Direct Contact Soil Cleanup Criteria	Impact to Groundwater Soil Cleanup Criteria	TPS-A2-1 310-002 1.0 01/17/00			TPS-A2-5 310-003 5.0 01/17/00			TPS-A2-10 364-003 10.0 01/19/00		
				MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
VO+10												
Benzene	3	13	1		ND			ND			*4.58*	J
Trichloroethene	23	54	1		ND			ND			*85.7*	
Tetrachloroethene	4	6	1		ND			ND			*123*	
1,3-Dichlorobenzene	5100	10000	100		ND			ND			103	
1,4-Dichlorobenzene	280	1200	100		ND			ND			759	D
1,2-Dichlorobenzene	5100	10000	50		ND			ND			766	D
Chlorobenzene	37	680	1		ND			ND			*1,460*	D
TOTAL TARGETED VOs:	---	---	---		ND			ND			3,301	
TOTAL NON-TARGETED VOs:	---	---	---		13			ND			105.94	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
BN+15												
Acenaphthene	3400	10000	100		ND			ND			ND	
Acenaphthylene	NLE	NLE	NLE		ND			ND			ND	
Anthracene	10000	10000	100		0.16	J		ND			ND	
Benzo(a)anthracene	0.90	4	500		0.68			ND			ND	
Benzo(a)pyrene	0.66	0.66	100		0.54			ND			ND	
Benzo(b)fluoranthene	0.90	4.00	50		0.72			ND			ND	
Benzo(g,h,i)perylene	NLE	NLE	NLE		0.40			ND			ND	
Benzo(k)fluoranthene	0.90	4.00	100		0.28			ND			ND	
Bis(2-ethylhexyl)phthalate	49	210	100		ND			ND			ND	
Benzedrine	NLE	NLE	NLE		ND			ND			ND	
Chrysene	9	40	500		0.53			ND			ND	
Dibenzofuran	NLE	NLE	NLE		ND			ND			ND	
Dibenzo(a,h)anthracene	0.66	0.66	100		ND			ND			ND	
Fluoranthene	2300	10000	100		1.14			ND			ND	
Fluorene	2300	10000	100		ND			ND			ND	
Indeno(1,2,3-cd)pyrene	0.90	4	500		0.36			ND			ND	
2-Methylnaphthalene	NLE	NLE	NLE		ND			ND			0.58	J
Naphthalene	230	4200	100		0.48			ND			40.90	
Phenanthrene	NLE	NLE	NLE		0.44			ND			ND	
Pyrene	1700	10000	100		0.97			ND			ND	
1,2,4-Trichlorobenzene	69	1200	100		ND			ND			43.20	
1,3-Dichlorobenzene	5100	10000	100		ND			ND			0.98	
1,4-Dichlorobenze	570	10000	100		ND			ND			1.10	
1,2-Dichlrobenzene	5100	10000	50		ND			ND			3.72	
TOTAL TARGETED BNs:	--	--	--		6.67			ND			90.48	
TOTAL NON-TARGETED BNs:	--	--	--		ND			93.3			286.60	
Dioxin	--	--	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
Priority Pollutant Metals												
Arsenic	20	20	NLE		8.8			*76.4*			1.9	
Beryllium	1	1	NLE		ND			ND			ND	
Cadmium	1	1	NLE		0.6			*1.7*			ND	
Chromium	120000	NLE	NLE		3,197			930			38.7	
Chromium, (hexvalent)	NLE	NLE	NLE		ND			73.1			3.81	
Copper	600	600	NLE		17.4			199			10.7	
Lead	400	600	NLE		81.4			236			3.9	
Mercury	14	270	NLE		0.2			1.3			ND	
Nickel	250	2400	NLE		173			107			8.8	
Silver	110	4100	NLE		ND			ND			ND	
Thallium	2	2	NLE		ND			ND			0.2	
Zinc	1500	1500	NLE		193			411			21.1	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--	--		25,000			49,000			4,300	

TABLE 1

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000
STANDARD CHLORINE
KEARNY, NEW JERSEY

ft bgs - feet below ground surface
NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	RESIDENTIAL Direct Contact Soil Cleanup Criteria	NON-RESIDENTIAL Direct Contact Soil Cleanup Criteria	Impact to Groundwater Soil Cleanup Criteria	TPS-A3-1 310-004 1.0 01/17/00			TPS-A3-5 310-005 5.0 01/17/00			TPS-A3-10 364-005 10.0 01/19/00		
				MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)		--	(ppm)	
Dilution Factor	--	--	--									
VO+10												
Benzene	3	13	1		ND			ND			ND	
Trichloroethene	23	54	1		ND			ND			0.32	J
Tetrachloroethene	4	6	1		ND			ND			ND	
1,3-Dichlorobenzene	5100	10000	100		ND			ND			0.84	
1,4-Dichlorobenzene	280	1200	100		ND			ND			0.86	
1,2-Dichlorobenzene	5100	10000	50		ND			ND			2.23	
Chlorobenzene	37	680	1		6.26	J		ND			ND	
TOTAL TARGETED VOs:	---	---	---		6.26			ND			4.26	
TOTAL NON-TARGETED VOs:	---	---	---		1.5			ND			36.59	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
BN+15												
Acenaphthene	3400	10000	100		0.25	J		ND			ND	
Acenaphthylene	NLE	NLE	NLE		2.22			0.33	J		ND	
Anthracene	10000	10000	100		4.85			0.30			ND	
Benzo(a)anthracene	0.90	4	500		*15*			*1.06*			ND	
Benzo(a)pyrene	0.66	0.66	100		*13.20*			*1.10*			ND	
Benzo(b)fluoranthene	0.90	4.00	50		16.30			1.07			ND	
Benzo(g,h,i)perylene	NLE	NLE	NLE		4.50			0.67			ND	
Benzo(k)fluoranthene	0.90	4.00	100		*6.65*			0.33	J		ND	
Bis(2-ethylhexyl)phthalate	49	210	100		5.01			ND			ND	
Benzedrine	NLE	NLE	NLE		ND			0.56			ND	
Chrysene	9	40	500		*11.20*			ND			ND	
Dibenzofuran	NLE	NLE	NLE		ND			ND			ND	
Dibenzo(a,h)anthracene	0.66	0.66	100		*1.77*			ND			ND	
Fluoranthene	2300	10000	100		41.20			1.29			ND	
Fluorene	2300	10000	100		0.61			ND			ND	
Indeno(1,2,3-cd)pyrene	0.90	4	500		*4.91*			0.55			ND	
2-Methylnaphthalene	NLE	NLE	NLE		ND			ND			ND	
Naphthalene	230	4200	100		0.64			0.34	J		0.29	
Phenanthrene	NLE	NLE	NLE		4.32			0.85			ND	
Pyrene	1700	10000	100		26.90			1.81			ND	
1,2,4-Trichlorobenzene	69	1200	100		ND			ND			2.97	
1,3-Dichlorobenzene	5100	10000	100		0.38			ND			0.24	
1,4-Dichlorobenze	570	10000	100		0.42			ND			0.29	
1,2-Dichlrobenzene	5100	10000	50		0.64			ND			0.55	
TOTAL TARGETED BNs:	--	--	--		160.97			10.25			4.33	
TOTAL NON-TARGETED BNs:	--	--	--		60.63			37.85			0.58	
Dioxin	--	--	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
Priority Pollutant Metals												
Arsenic	20	20	NLE		*31.4*			*112*			2.03	
Beryllium	1	1	NLE		0.6			0.8			0.404	
Cadmium	1	1	NLE		*2.4*			*1.5*			ND	
Chromium	120000	NLE	NLE		1,280			257			14.3	
Chromium, (hexvalent)	NLE	NLE	NLE		ND			4.29			ND	
Copper	600	600	NLE		150			317			13.8	
Lead	400	600	NLE		178			339			11.7	
Mercury	14	270	NLE		4.4			6.4			ND	
Nickel	250	2400	NLE		68.4			62.3			22	
Silver	110	4100	NLE		1.7			2.2			ND	
Thallium	2	2	NLE		ND			ND			0.104	
Zinc	1500	1500	NLE		362			388			55	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--	--		22,000			19,000			2,300	

TABLE 1

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000
STANDARD CHLORINE
KEARNY, NEW JERSEY

ft bgs - feet below ground surface
NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	RESIDENTIAL Direct Contact Soil Cleanup Criteria	NON-RESIDENTIAL Direct Contact Soil Cleanup Criteria	Impact to Groundwater Soil Cleanup Criteria	TPS-B1-1 310-006 1.0 01/17/00 MDL	CONC	Q	TPS-B1-5 310-007 5.0 01/17/00 MDL	CONC	Q	TPS-B1-10 318-001 10.0 01/18/00 MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
VO+10												
Toluene	1000	1000	50		ND			ND			0.22	J
Chlororbenzene	37	680	1		ND			ND			ND	
TOTAL TARGETED VOs:	---	---	---		ND			ND			0.22	
TOTAL NON-TARGETED VOs:	---	---	---		1,880			4			ND	
COMPOUNDS (units)	(ppm)	(ppm)			(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
BN+15												
Acenaphthene	3400	10000	100		ND			ND			ND	
Acenaphthylene	NLE	NLE	NLE		ND			ND			ND	
Anthracene	10000	10000	100		ND			ND			ND	
Benzo(a)anthracene	0.90	4	500		0.76			ND			ND	
Benzo(a)pyrene	0.66	0.66	100		*1.07*			ND			ND	
Benzo(b)fluoranthene	0.90	4	50		*2.67*			ND			ND	
Benzo(g,h,i)perylene	NLE	NLE	NLE		0.63			ND			ND	
Benzo(k)fluoranthene	0.90	4	500		*1.93*			ND			ND	
Bis(2-ethylhexyl)phthalate	49	210	100		0.33	J		ND			0.51	
Benzidine	NLE	NLE	NLE		ND			ND			ND	
Chrysene	9	40	500		*0.60*			ND			ND	
Dibenzofuran	NLE	NLE	NLE		ND			ND			ND	
Dibenzo(a,h)anthracene	0.66	0.66	100		ND			ND			ND	
Fluoranthene	2300	10000	100		1.28			ND			ND	
Fluorene	2300	10000	50		ND			ND			ND	
Indeno(1,2,3-cd)pyrene	0.90	4	4		0.44	J		ND			ND	
2-Methylnaphthalene	NLE	NLE	NLE		ND			ND			ND	
Naphthalene	230	4200	100		*4,570*	D		26.3			ND	
Phenanthrene	NLE	NLE	NLE		0.49	J		ND			ND	
Pyrene	1700	10000	100		0.89			ND			ND	
1,3-Dichlorobenzene	5100	10000	100		ND			ND			ND	
1,4-Dichlorobenze	570	10000	100		ND			ND			ND	
1,2-Dichlrobenzene	5100	10000	50		ND			ND			ND	
TOTAL TARGETED BNs:	--	--	--		4,581.09			26.3			0.51	
TOTAL NON-TARGETED BNs:	--	--	--		ND			13.48			124.25	
Dioxin	--	--			ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
Priority Pollutant Metals												
Arsenic	20	20	NLE		7.91			6.21			0.28	
Beryllium	1	1	NLE		2			ND			ND	
Cadmium	1	1	NLE		*1.27*			ND			ND	
Chromium	120000	NLE	NLE		1,079			143			6.59	
Chromium, (hexvalent)	NLE	NLE	NLE		ND			ND			ND	
Copper	600	600	NLE		37			ND			1.44	
Lead	400	600	NLE		51.6			ND			3.46	
Mercury	14	270	NLE		0.098			0.159			0.03	
Nickel	250	2400	NLE		50.6			8.07			2.49	
Silver	110	4100	NLE		ND			ND			ND	
Thallium	2	2	NLE		ND			ND			ND	
Zinc	1500	1500	NLE		162			37.6			3.84	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--			58,000			71,000			45,000	

TABLE 1

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000
STANDARD CHLORINE
KEARNY, NEW JERSEY

ft bgs - feet below ground surface
NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	RESIDENTIAL Direct Contact Soil Cleanup Criteria	NON-RESIDENTIAL Direct Contact Soil Cleanup Criteria	Impact to Groundwater Soil Cleanup Criteria	TPS-B2-1 318-002 1.0 01/18/00			TPS-B2-5 318-003 5.0 01/18/00			TPS-B2-10 318-009 10.0 01/18/00		
				MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
VO+10												
Toluene	1000	1000	50		ND			ND			ND	
Chlororbenzene	37	680	1		ND			ND			ND	
TOTAL TARGETED VOs:	--	--	--		ND			ND			ND	
TOTAL NON-TARGETED VOs:	--	--	--		ND			1			98	
COMPOUNDS (units)	(ppm)	(ppm)			(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
BN+15												
Acenaphthene	3400	10000	100		ND			ND			1.10	
Acenaphthylene	NLE	NLE	NLE		ND			ND			ND	
Anthracene	10000	10000	100		ND			ND			ND	
Benzo(a)anthracene	0.90	4	500		0.66			ND			ND	
Benzo(a)pyrene	0.66	0.66	100		0.61			ND			ND	
Benzo(b)fluoranthene	0.90	4	50		*1.14*			ND			ND	
Benzo(g,h,i)perylene	NLE	NLE	NLE		0.22	J		ND			ND	
Benzo(k)fluoranthene	0.90	4	500		0.63			ND			ND	
Bis(2-ethylhexyl)phthalate	49	210	100		0.96			ND			ND	
Benzidine	NLE	NLE	NLE		ND			ND			0.32	J
Chrysene	9	40	500		0.34			ND			ND	
Dibenzofuran	NLE	NLE	NLE		ND			ND			0.68	
Dibenzo(a,h)anthracene	0.66	0.66	100		ND			ND			ND	
Fluoranthene	2300	10000	100		0.79			ND			ND	
Fluorene	2300	10000	50		ND			ND			0.28	
Indeno(1,2,3-cd)pyrene	0.90	4	4		0.21	J		ND			ND	
2-Methylnaphthalene	NLE	NLE	NLE		ND			ND			4.80	
Naphthalene	230	4200	100		0.73			ND			2.57	
Phenanthrene	NLE	NLE	NLE		ND			ND			0.19	J
Pyrene	1700	10000	100		0.56			ND			ND	
1,3-Dichlorobenzene	5100	10000	100		ND			ND			0.22	J
1,4-Dichlorobenze	570	10000	100		ND			ND			0.47	
1,2-Dichlrobenzene	5100	10000	50		ND			ND			0.29	
TOTAL TARGETED BNs: *	--	--	--		6.84			ND			10.92	
TOTAL NON-TARGETED BNs:	--	--	--		ND			17.19			959.39	
Dioxin	--	--	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)			(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
Priority Pollutant Metals												
Arsenic	20	20	NLE		*38.90*			0.78			1.38	
Beryllium	1	1	NLE		0.82			0.43			ND	
Cadmium	1	1	NLE		*1.30*			ND			ND	
Chromium	120000	NLE	NLE		5,240			34.20			12.8	
Chromium, (hexvalent)	NLE	NLE	NLE		ND			ND			ND	
Copper	600	600	NLE		110			4.78			15	
Lead	400	600	NLE		192			7.84			4.27	
Mercury	14	270	NLE		6.50			0.10			ND	
Nickel	250	2400	NLE		*308*			7.30			2.06	
Silver	110	4100	NLE		0.86			ND			ND	
Thallium	2	2	NLE		0.29			ND			ND	
Zinc	1500	1500	NLE		420			11.70			3.6	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--	--		11,000			18,000			ND	

TABLE 1

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000
STANDARD CHLORINE
KEARNY, NEW JERSEY

ft bgs - feet below ground surface
NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	RESIDENTIAL Direct Contact Soil Cleanup Criteria	NON-RESIDENTIAL Direct Contact Soil Cleanup Criteria	Impact to Groundwater Soil Cleanup Criteria	TPS-B3-1 310-008 1.0 01/17/00			TPS-B3-5 310-009 5.0 01/17/00			TPS-B3-10 364-005 10.0 01/19/00		
				MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
VO+10												
Toluene	1000	1000	50		0.38	J		ND			ND	
Chlororbenzene	37	680	1		0.69	J		ND			ND	
TOTAL TARGETED VOs:	---	---	---		1.07			ND			ND	
TOTAL NON-TARGETED VOs:	---	---	---		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
BN+15												
Acenaphthene	3400	10000	100		0.75			ND			ND	
Acenaphthylene	NLE	NLE	NLE		0.82			ND			ND	
Anthracene	10000	10000	100		1.98			ND			ND	
Benzo(a)anthracene	0.90	4	500		*4.31*			ND			ND	
Benzo(a)pyrene	0.66	0.66	100		*2.79*			ND			ND	
Benzo(b)fluoranthene	0.90	4	50		*2.76*			ND			ND	
Benzo(g,h,i)perylene	NLE	NLE	NLE		1.36			ND			ND	
Benzo(k)fluoranthene	0.90	4	500		*1.13*			ND			ND	
Bis(2-ethylhexyl)phthalate	49	210	100		0.78			ND			ND	
Benzidine	NLE	NLE	NLE		ND			ND			ND	
Chrysene	9	40	500		2.97			ND			ND	
Dibenzofuran	NLE	NLE	NLE		ND			ND			ND	
Dibenzo(a,h)anthracene	0.66	0.66	100		*0.88*			ND			ND	
Fluoranthene	2300	10000	100		4.41			ND			ND	
Fluorene	2300	10000	50		0.51			ND			ND	
Indeno(1,2,3-cd)pyrene	0.90	4	4		*1.38*			ND			ND	
2-Methylnaphthalene	NLE	NLE	NLE *		0.35	J		ND			ND	
Naphthalene	230	4200	100		3.94			0.13			ND	
Phenanthrene	NLE	NLE	NLE		2.25			ND			ND	
Pyrene	1700	10000	100		5.26			ND			ND	
1,3-Dichlorobenzene	5100	10000	100		ND			ND			ND	
1,4-Dichlorobenze	570	10000	100		ND			ND			ND	
1,2-Dichlrobenzene	5100	10000	50		ND			ND			ND	
TOTAL TARGETED BNs:	--	--	--		38.62			0.13			ND	
TOTAL NON-TARGETED BNs:	--	--	--		20.86			25.59			12.54	
Dioxin	--	--	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
Priority Pollutant Metals												
Arsenic	20	20	NLE		*105*			2.06			2.6	
Beryllium	1	1	NLE		0.869			ND			0.609	
Cadmium	1	1	NLE		*2.21*			ND			0.259	
Chromium	120000	NLE	NLE		376			27			43	
Chromium, (hexvalent)	NLE	NLE	NLE		ND			ND			ND	
Copper	600	600	NLE		295			7.34			20.7	
Lead	400	600	NLE		337			5.63			11.8	
Mercury	14	270	NLE		2.47			0.032			ND	
Nickel	250	2400	NLE		64.5			7.72			39.8	
Silver	110	4100	NLE		2.31			ND			ND	
Thallium	2	2	NLE		0.42			ND			0.093	
Zinc	1500	1500	NLE		499			18.4			72.3	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--	--		18,000			1,400			3,100	

TABLE 1

ft bgs - feet below ground surface

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000
STANDARD CHLORINE
KEARNY, NEW JERSEY

NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	RESIDENTIAL Direct Contact Soil Cleanup Criteria	NON-RESIDENTIAL Direct Contact Soil Cleanup Criteria	Impact to Groundwater Soil Cleanup Criteria	TPS-C1-1 310-010 1.0 01/17/00			TPS-C1-5 310-011 5.0 01/17/00			TPS-C1-10 364-006 10 01/19/00		
				MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--	--									
VO+10												
TOTAL TARGETED VOs:	---	---	---		ND			ND			ND	
TOTAL NON-TARGETED VOs:	---	---	---		2			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--	--									
BN+15												
Acenaphthene	3400	10000	100		11.7			ND			ND	
Acenaphthylene	NLE	NLE	NLE		50.4			0.4			ND	
Anthracene	1000	10000	100		75.2			0.4			ND	
Benzo(a)anthracene	0.90	4	500		*304*			*1.4*			ND	
Benzo(a)pyrene	0.66	0.66	100		*281*			*2.0*			ND	
Benzo(b)fluoranthene	0.90	0.66	50		*391*			*2.3*			ND	
Benzo(g,h,i)perylene	NLE	NLE	NLE		219			1.5			ND	
Benzo(k)fluoranthene	0.90	4	500		*130*			0.9			ND	
Bis(2-ethylhexyl)phthalate	49	210	100		ND			0.4			ND	
Carbazole	NLE	NLE	NLE		27.1			ND			ND	
Chrysene	9	40	500		*259*			0.8			ND	
Dibenzo(a,h)anthracene	0.66	0.66	100		*61.2*			0.5			ND	
Dibenzofuran	NLE	NLE	NLE		18.7			ND			ND	
Di-n-butylphthalate	5700	10000	100		ND			0.2	J		ND	
Fluoranthene	2300	10000	100		740			2.2			ND	
Fluorene	2300	10000	100		37.5			ND			ND	
Indeno(1,2,3-cd)pyrene	0.90	4	500		*190*			*1.3*			ND	
2-Methylnaphthalene	NLE	NLE	NLE		4.4	J		ND			ND	
Naphthalene	230	4200	100		28.3			0.4			ND	
Phenanthrene	NLE	NLE	NLE		414			1.0			ND	
Pyrene	63	3100	100		*581*			2.8			ND	
TOTAL TARGETED BNs:	--	--	--		3,823.5			18.4			ND	
TOTAL NON-TARGETED BNs:	--	--	--		474.2			ND			ND	
Dioxins	--	--	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
Priority Pollutant Metals												
Arsenic	20	20	NLE		15.1			14.6			0.75	
Beryllium	1	1	NLE		ND			ND			0.32	
Cadmium	1	1	NLE		*1.3*			ND			ND	
Chromium	120000	NLE	NLE		11,700			14,400			14.80	
Chromium, (hexvalent)	NLE	NLE	NLE		22.1			ND			ND	
Copper	600	600	NLE		50.7			12.4			9.78	
Lead	400	600	NLE		119			25.6			5.34	
Mercury	14	270	NLE		1.2			2.2			ND	
Nickel	250	2400	NLE		241			138			12.20	
Silver	110	4100	NLE		ND			ND			ND	
Thallium	2	2	NLE		ND			ND			ND	
Zinc	1500	1500	NLE		343			114			31.10	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--			59,000			49,000			1,000	

TABLE 1

ft bgs - feet below ground surface
NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000
STANDARD CHLORINE
KEARNY, NEW JERSEY

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	RESIDENTIAL Direct Contact Soil Cleanup Criteria	NON-RESIDENTIAL Direct Contact Soil Cleanup Criteria	Impact to Groundwater Soil Cleanup Criteria	TPS-C2-1 318-004 1.0 01/18/00			TPS-C2-5 318-005 5.0 01/18/00			TPS-C2-10 364-007 10.0 01/19/00		
				MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)			(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
VO+10												
TOTAL TARGETED VOs:	---	---	---		ND			ND			ND	
TOTAL NON-TARGETED VOs:	---	---	---		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
BN+15												
Acenaphthene	3400	10000	100		15.4			ND			ND	
Acenaphthylene	NLE	NLE	NLE		39.8			ND			ND	
Anthracene	1000	10000	100		127.0			0.2	J		ND	
Benzo(a)anthracene	0.90	4	500		*260.0*			0.9			ND	
Benzo(a)pyrene	0.66	0.66	100		*217.0*			0.5			ND	
Benzo(b)fluoranthene	0.90	4.00	50		*310.0*			0.8			ND	
Benzo(g,h,i)perylene	NLE	NLE	NLE		99.4			0.3			ND	
Benzo(k)fluoranthene	0.90	4	500		*114.0*			0.4			ND	
Bis(2-ethylhexyl)phthalate	49	210	100		5.8			ND			ND	
Carbazole	NLE	NLE	NLE		32.9			ND			ND	
Chrysene	9	40	500		*200.0*			0.4			ND	
Dibenzo(a,h)anthracene	0.66	0.66	100		*37.8*			ND			ND	
Dibenzofuran	NLE	NLE	NLE		20.8			ND			ND	
Di-n-butylphthalate	5700	10000	100		ND			ND			ND	
Fluoranthene	2300	10000	100		733.0			1.4			ND	
Fluorene	2300	10000	100		45.7			ND			ND	
Indeno(1,2,3-cd)pyrene	0.90	4	500		94.4			0.3			ND	
2-Methylnaphthalene	NLE	NLE	NLE		7.0	J		ND			ND	
Naphthalene	230	4200	100		21.1			ND			ND	
Phenanthrene	NLE	NLE	NLE		521.0			0.4			ND	
Pyrene	63	3100	100		*503.0*			1.4			ND	
TOTAL TARGETED BNs:	--	--			3,405.2			6.8			ND	
TOTAL NON-TARGETED BNs:	--	--			373.2			111.3			ND	
Dioxins	--	--			ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
Priority Pollutant Metals												
Arsenic	20	20	NLE		10.5			0.6			2.36	
Beryllium	1	1	NLE		0.5			ND			0.40	
Cadmium	1	1	NLE		*3.3*			ND			ND	
Chromium	120000	NLE	NLE		2,790			51.3			25.50	
Chromium, (hexvalent)	NLE	NLE	NLE		ND			ND			ND	
Copper	600	600	NLE		115			5.2			20.90	
Lead	400	600	NLE		118			3.1			7.52	
Mercury	14	270	NLE		2.9			0.1			ND	
Nickel	250	2400	NLE		72.1			2.2			15.30	
Silver	110	4100	NLE		0.6			ND			ND	
Thallium	2	2	NLE		0.2			ND			ND	
Zinc	1500	1500	NLE		300			8.3			39.00	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--	--		40,000			49,000			890	

TABLE 1

ft bgs - feet below ground surface

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000
STANDARD CHLORINE
KEARNY, NEW JERSEY

NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	RESIDENTIAL Direct Contact Soil Cleanup Criteria	NON-RESIDENTIAL Direct Contact Soil Cleanup Criteria	Impact to Groundwater Soil Cleanup Criteria	TPS-C3-1 318-006 1.0 01/18/00			TPS-C3-5 310-007 5.0 01/18/00			TPS-C3-10 364-008 10.0 01/19/00		
				MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)			(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
VO+10												
TOTAL TARGETED VOs:	---	---	---		ND			ND			ND	
TOTAL NON-TARGETED VOs:	---	---	---		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--										
BN+15												
Acenaphthene	3400	10000	100		ND			ND			ND	
Acenaphthylene	NLE	NLE	NLE		ND			ND			ND	
Anthracene	1000	10000	100		0.35			ND			ND	
Benzo(a)anthracene	0.90	4	500		*1.66*			0.2			ND	
Benzo(a)pyrene	0.66	0.66	100		*1.76*			0.1	J		ND	
Benzo(b)fluoranthene	0.90	0.66	50		*2.56*			0.2	J		ND	
Benzo(g,h,i)perylene	NLE	NLE	NLE		0.75			ND			ND	
Benzo(k)fluoranthene	0.90	4	500		*1.08*			ND			ND	
Bis(2-ethylhexyl)phthalate	49	210	100		7.04			ND			ND	
Carbazole	NLE	NLE	NLE		ND			ND			ND	
Chrysene	9	40	500		1.61			0.1	J		ND	
Dibenzo(a,h)anthracene	0.66	0.66	100		0.23			ND			ND	
Dibenzofuran	NLE	NLE	NLE		ND			ND			ND	
Di-n-butylphthalate	5700	10000	100		ND			ND			ND	
Fluoranthene	2300	10000	100		3.61			0.4			ND	
Fluorene	2300	10000	100		ND			ND			ND	
Indeno(1,2,3-cd)pyrene	0.90	4	500		0.75			ND			ND	
2-Methylnaphthalene	NLE	NLE	NLE		ND			ND			ND	
Naphthalene	230	4200	100		ND			ND			ND	
Phenanthrene	NLE	NLE	NLE		1.02			ND			ND	
Pyrene	63	3100	100		2.96			0.4			ND	
TOTAL TARGETED BNs:	--	--	--		25.38			1.5			ND	
TOTAL NON-TARGETED BNs:	--	--	--		2.679			56			ND	
Dioxins	--	--	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--	--									
Priority Pollutant Metals												
Arsenic	20	20	NLE		13.5			0.5			0.75	
Beryllium	1	1	NLE		0.3			ND			0.32	
Cadmium	1	1	NLE		*1.9*			ND			ND	
Chromium	120000	NLE	NLE		4,580			53			14.80	
Chromium, (hexvalent)	NLE	NLE	NLE		ND			ND			ND	
Copper	600	600	NLE		67.2			11.5			9.79	
Lead	400	600	NLE		100			2.7			5.34	
Mercury	14	270	NLE		1.7			0.3			ND	
Nickel	250	2400	NLE		94.1			2.1			12.20	
Silver	110	4100	NLE		0.6			ND			ND	
Thallium	2	2	NLE		0.2			ND			ND	
Zinc	1500	1500	NLE		224			94.2			31.30	
COMPOUNDS (units)	(ppm)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--	--		17,000			23,000			450	

NOTES
ft bgs - feet below ground surface
LEL - Lowest Effects Level
SEL - Severe Effects Level
NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

TABLE 2

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000 BY ESI
STANDARD CHLORINE
KEARNY, NEW JERSEY

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	Marine/Estuarine Screening Guidelines ER-L (1)	Marine/Estuarine Screening Guidelines ER-M (2)	TPS-A1-1 310-001 1.0 01/17/00			TPS-A2-1 310-002 1.0 01/17/00			TPS-A3-1 310-004 1.0 01/17/00		
			MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Volatile Organic											
Benzene	0.34	--		ND			ND			ND	
Trichloroethylene	1.6	--		ND			ND			ND	
Tetrachloroethylene	0.45	--		ND			ND			ND	
Ethylbenzene	1.4	--		ND			ND			ND	
Toluene	2.5	--		ND			ND			ND	
Xylene	>0.12	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Polynuclear Aromatic											
Acenaphthene	0.016	0.5		ND			ND			***0.25***	J
Acenaphthylene	0.044	0.64		ND			ND			***2.22***	
Anthracene	0.085	1.1		ND			0.16	J		***4.85***	
Benzo(a)anthracene	0.261	1.6		***0.77***	J		***0.66***			***15.00***	
Benzo(a)pyrene	0.43	1.6		ND			***0.54***			***13.20***	
Benzo(g,h,i)perylene	0.17	320		ND			***0.40***			***4.50***	
Benzo(k)fluoranthene	0.24	1,340		ND			***0.28***			***6.65***	
Chrysene	0.384	2.8		ND			***0.53***			***11.20***	
Dibenzo(a,h)anthracene	0.063	0.26		ND			ND			***1.77***	
Fluoranthene	0.60	5.1		***1.01***	J		***1.14***			***41.20***	
Fluorene	0.019	0.54		ND			ND			***0.61***	
Indeno(1,2,3-cd)pyrene	0.20	320		ND			***0.36***			***4.91***	
2-Methylnaphthalene	0.07	0.67		ND			ND			ND	
Naphthalene	0.16	2.1		***200***			***0.48***			***0.64***	
Phenanthrene	0.24	1.5		ND			***0.44***			***4.32***	
Pyrene	0.665	2.6		***1.01***	J		***0.97***	J		***26.90***	
Total PAHs	4	45		***202.788***			***5.96***			***138.22***	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Priority Pollutant Metals											
Arsenic	8.2	70		***19.5***			***8.8***			***31.4***	
Cadmium	1.2	9.6		0.9			0.6			***2.4***	
Chromium	81	370		***3,207***			***3,197***			***1,280***	
Copper	34	270		***45.4***			17.4			***150.0***	
Lead	47	218		***131***			***81.4***			***178.0***	
Mercury	0.15	0.71		***0.4***			***0.2***			***4.4***	
Nickel	21	52		***208***			***173***			***68***	
Silver	1	3.7		ND			ND			***1.7***	
Zinc	150	410		***288***			***193***			***362***	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--		20,000			25,000			22,000	
COMPOUNDS (units)	(%)	(%)		(%)			(%)			(%)	
Total Particle Size											
Percent Gravel	--	--		21.95			28.33			77.56	
Percent Sand	--	--		74.14			70.25			15.10	
Percent Silt and Clay	--	--		3.60			1.24			6.80	

(1) - ER-L (Effects Range-Low): Concentration at which adverse benthic impacts are found in approximately 10% of studies.

(2) - ER-M (Effects Range-Median): Concentration at which adverse effects to sensitve species and/or life stages are found in approximately 50% of studies.

**If results are bolded and italicized, results exceed the ER-L or ER-M values.

NOTES
ft bgs - feet below ground surface
LEL - Lowest Effects Level
SEL - Severe Effects Level
NLE - No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

TABLE 2

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000 BY ESI
STANDARD CHLORINE
KEARNY, NEW JERSEY

Enviro-Sciences, Inc.

Sample ID Number / Laboratory Sample Number: / Depth Collected (ft bgs) / Date Sampled:	Marine/Estuarine Screening Guidelines ER-L (1)	Marine/Estuarine Screening Guidelines ER-M (2)	TPS-B1-1 310-006 1.0 01/17/00			TPS-B2-1 318-002 1.0 01/18/00			TPS-B3-1 310-008 1.0 01/17/00		
			MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Volatile Organic											
Benzene	0.34	--		ND			ND			ND	
Trichloroethylene	1.6	--		ND			ND			ND	
Tetrachloroethylene	0.45	--		ND			ND			ND	
Ethylbenzene	1.4	--		ND			ND			ND	
Toluene	2.5	--		ND			ND			0.38	
Xylene	>0.12	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Polynuclear Aromatic											
Acenaphthene	0.016	0.5		ND			ND			***0.75***	
Acenaphthylene	0.044	0.64		ND			ND			***0.82***	
Anthracene	0.085	1.1		ND			ND			***1.98***	
Benzo(a)anthracene	0.261	1.6		***0.76***			***0.66***			***4.31***	
Benzo(a)pyrene	0.43	1.6		***1.07***			***0.61***			***2.79***	
Benzo(g,h,i)perylene	0.17	320		***0.63***			***0.22***	J		***1.36***	
Benzo(k)fluoranthene	0.24	1,340		***1.93***			***0.63***			***1.13***	
Chrysene	0.384	2.8		***0.60***			0.34			***2.97***	
Dibenzo(a,h)anthracene	0.063	0.26		ND			ND			***0.88***	
Fluoranthene	0.60	5.1		***1.28***	J		***0.79***			***4.41***	
Fluorene	0.019	0.54		ND			ND			***0.51***	
Indeno(1,2,3-cd)pyrene	0.20	320		***0.44***	J		***0.21***	J		***1.38***	
2-Methylnaphthalene	0.07	0.67		ND			ND			***0.35***	J
Naphthalene	0.16	2.1		***4570***	D		***0.73***			***3.94***	
Phenanthrene	0.24	1.5		***0.49***	J		ND			***2.25***	
Pyrene	0.665	2.6		***0.89***			0.56			***5.26***	
Total PAHs	4	45		***4578.09***			***4.75***			***35.09***	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Priority Pollutant Metals											
Arsenic	8.2	70		7.9			***38.9***			***105.0***	
Cadmium	1.2	9.6		***1.27***			***1.3***			***2.2***	
Chromium	81	370		***1,079***			***5,240***			***378***	
Copper	34	270		***37.0***			***110.0***			***295.0***	
Lead	47	218		***52***			***192***			***337.0***	
Mercury	0.15	0.71		0.098			***6.5***			***2.5***	
Nickel	21	52		***50.6***			***308***			***65***	
Silver	1	3.7		ND			0.9			***2.3***	
Zinc	150	410		***162***			***420***			***499***	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--		58,000			11,000			18,000	
COMPOUNDS (units)	(%)	(%)		(%)			(%)			(%)	
Total Particle Size											
Percent Gravel	--	--		42.55			31.94			88.23	
Percent Sand	--	--		52.93			65.33			5.38	
Percent Silt and Clay	--	--		4.42			2.66			4.60	

(1) - ER-L (Effects Range-Low): Concentration at which adverse benthic impacts are found in approximately 10% of studies.

(2) - ER-M (Effects Range-Median): Concentration at which adverse effects to sensitive species and/or life stages are found in approximately 50% of studies.

**If results are bolded and italicized, results exceed the ER-L or ER-M values.

NOTES
ft bgs - feet below ground surface
LEL - Lowest Effects Level
SEL - Severe Effects Level
NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

TABLE 2

SUMMARY OF SEDIMENT ANALYTICAL RESULTS COLLECTED JANUARY 17, 2000 - JANUARY 19, 2000 BY ESI STANDARD CHLORINE KEARNY, NEW JERSEY

Enviro-Sciences, Inc.

Sample ID Number / Laboratory Sample Number: / Depth Collected (ft bgs) / Date Sampled:	Marine/Estuarine Screening Guidelines ER-L (1)	Marine/Estuarine Screening Guidelines ER-M (2)	TPS-C1-1 310-006 1.0 01/17/00			TPS-C2-1 318-004 1.0 01/18/00			TPS-C3-1 318-006 1.0 01/18/00		
			MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Volatile Organic											
Benzene	0.34	--		ND			ND			ND	
Trichloroethylene	1.6	--		ND			ND			ND	
Tetrachloroethylene	0.45	--		ND			ND			ND	
Ethylbenzene	1.4	--		ND			ND			ND	
Toluene	2.5	--		ND			ND			ND	
Xylene	>0.12	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Polynuclear Aromatic											
Acenaphthene	0.016	0.5		***11.7***			***15.4***			ND	
Acenaphthylene	0.044	0.64		***50.4***			***39.8***			ND	
Anthracene	0.085	1.1		***75.2***			***127***			***0.35***	
Benzo(a)anthracene	0.261	1.6		***304***			***260***			***1.66***	
Benzo(a)pyrene	0.43	1.6		***281***			***217***			***1.76***	
Benzo(g,h,i)perylene	0.17	320		***219***			***99***			***0.75***	
Benzo(k)fluoranthene	0.24	1,340		***130***			***114***			***1.08***	
Chrysene	0.384	2.8		***259***			***200***			***1.61***	
Dibenzo(a,h)anthracene	0.063	0.26		***61***			***38***			***0.23***	
Fluoranthene	0.60	5.1		***740***			***733***			***3.61***	
Fluorene	0.019	0.54		***37.5***			***46***			ND	
Indeno(1,2,3-cd)pyrene	0.20	320		***190***			***94***			***0.75***	
2-Methylnaphthalene	0.07	0.67		***4.4***	J		***7***	J		ND	
Naphthalene	0.16	2.1		***28.3***			***21***			ND	
Phenanthrene	0.24	1.5		***414***			***521***			***1.02***	
Pyrene	0.665	2.6		***581***			***503***			***2.96***	
Total PAHs	4	45		***3386.7***			***3035.6***			***15.79***	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Priority Pollutant Metals											
Arsenic	8.2	70		***15.1***			10.5			***13.5***	
Cadmium	1.2	9.6		***1.3***			***3.30***			***1.90***	
Chromium	81	370		***11,700***			***2,790***			***4,580***	
Copper	34	270		***50.7***			***115.0***			***67.2***	
Lead	47	218		***119***			***118***			***100***	
Mercury	0.15	0.71		***1.2***			2.900			***1.700***	
Nickel	21	52		***241***			***72.1***			***94.1***	
Silver	1	3.7		ND			0.6			0.6	
Zinc	150	410		***343***			***300***			***224***	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Total Organic Carbon	--	--		59,000			40,000			17,000	
COMPOUNDS (units)	(%)	(%)		(%)			(%)			(%)	
Total Particle Size											
Percent Gravel	--	--		32.87			71.03			50.40	
Percent Sand	--	--		61.25			25.83			42.01	
Percent Silt and Clay	--	--		5.55			3.02			7.39	

(1) - ER-L (Effects Range-Low): Concentration at which adverse benthic impacts are found in approximately 10% of studies.

(2) - ER-M (Effects Range-Median): Concentration at which adverse effects to sensitive species and/or life stages are found in approximately 50% of studies.

**If results are bolded and italicized, results exceed the ER-L or ER-M values.

REMEDIAL ACTION WORKPLAN

November 2000

Standard Chlorine Chemical Company, Inc.
1035 Belleville Turnpike
Kearny, New Jersey

Table 3 – Summary of Sediment Analytical Results
McLaren-Hart – September 23 – 24, 1992 and May 25 – 26, 1993

NOTES

[illegible]

TABLE 3

SUMMARY OF SEDIMENT ANALYTICAL RESULTS COLLECTED SEPTEMBER 23-24, 1992 AND MAY 25-26, 1993 BY MCLAREN-HART STANDARD CHLORINE KEARNY, NEW JERSEY

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number:	Marine/Estuarine Screening Guidelines ER-L (1)	Marine/Estuarine Screening Guidelines ER-M (2)	113-SE-125A			113-SE-125B			113-SE-125C		
			MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Date Sampled:	--	--		05/25/93			05/25/93			05/25/93	
Volatile Organic											
Benzene	0.34	--		ND			0.14			ND	
Ethylbenzene	1.4	--		ND			0.73			ND	
Toluene	2.5	--		ND			0.017			ND	
Xylene	>0.12	--		ND			***0.16***			ND	

COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Date Sampled:	--	--		09/23/92			09/23/92			09/23/92	
Polynuclear Aromatic											
Acenaphthene	0.016	0.5		***0.34***			***5.9***			ND	
Acenaphthylene	0.044	0.64		***0.19***			***0.92***			ND	
Anthracene	0.085	1.1		***0.82***			***6.9***			0.067	
Benzo(a)anthracene	0.261	1.6		***3.00***			***7.8***			0.26	
Benzo(a)pyrene	0.43	1.6		***2.90***			***6.4***			0.3	
Benzo(g,h,i)perylene	0.17	320		***0.77***			***2.3***			0.043	
Benzo(k)fluoranthene	0.24	1,340		ND			ND			ND	
Chrysene	0.384	2.8		ND			***8***			0.27	
Dibenzo(a,h)anthracene	0.063	0.26		ND			***0.69***			ND	
Fluoranthene	0.60	5.1		***7.20***			***10***			***0.68***	
Fluorene	0.019	0.54		***0.20***			***4.2***			ND	
Indeno(1,2,3-cd)pyrene	0.20	320		***0.10***			***2.2***			ND	
2-Methylnaphthalene	0.07	0.67		***0.17***			***0.69***			0.054	
Naphthalene	0.16	2.1		***1.1***			***0.72***			***0.5***	
Phenanthrene	0.24	1.5		***1.50***			***20***			0.18	
Pyrene	0.665	2.6		***7.10***			***17***			0.61	
Total PAHs	4	45		***25.39***			***93.67***			2.964	

COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Date Sampled:	--	--		09/23/92			09/23/92			09/23/92	
Pesticides											
Chlordane	0.007	--		ND			ND			ND	
Dieldrin	0.002	--		***0.0072***			ND			ND	

COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Date Sampled:	--	--		09/23/92			09/23/92			09/23/92	
PCB (total)	0.023	0.18									
Aroclor 1248	0.03	150		ND			ND			***0.03***	
Aroclor 1254	0.06	34		ND			ND			ND	

(1) - ER-L (Effects Range-Low): Concentration at which adverse benthic impacts are found in approximately 10% of studies

(2) - ER-M (Effects Range-Median): Concentration at which adverse effects to sensitive species and/or life stages are found in approximately 50% of studies.

**If results are bolded and italicized, results exceed the ER-L or ER-M values.

TABLE 3

SUMMARY OF SEDIMENT ANALYTICAL RESULTS COLLECTED SEPTEMBER 23-24, 1992 AND MAY 25-26, 1993 BY MCLAREN-HART STANDARD CHLORINE KEARNY, NEW JERSEY

NOTES
[illegible]
[illegible] - Lowest Effects Level
SEL - Severe Effects Level
[illegible] - None Established
MDL - Method Detection Limit
ppm - [illegible]
Q - [illegible]
[illegible]
ND - Not Detected
[illegible]

Enviro-Sciences, Inc.

Sample ID Number / Laboratory Sample Number:	Marine/Estuarine Screening Guidelines ER-L (1)	Marine/Estuarine Screening Guidelines ER-M (2)	113-SE-126A			113-SE-126B			113-SE-126C		
			MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
	--	--		05/26/93			05/26/93			05/26/93	
Volatile Organic											
Benzene	0.34	--		ND			***0.41***			ND	
Ethylbenzene	1.4	--		ND			ND			ND	
Toluene	2.5	--		ND			ND			ND	
Xylene	>0.12	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Date Sampled:	--	--		09/23/92			09/23/92			09/23/92	
Polynuclear Aromatic											
Acenaphthene	0.016	0.5		ND			***7.1***			ND	
Acenaphthylene	0.044	0.64		ND			***2***			ND	
Anthracene	0.085	1.1		ND			***21***			ND	
Benzo(a)anthracene	0.261	1.6		***1.50***			***26***			ND	
Benzo(a)pyrene	0.43	1.6		***1.40***			***17***			ND	
Benzo(g,h,i)perylene	0.17	320		***0.48***			***4.9***			ND	
Benzo(k)fluoranthene	0.24	1.340		***0.81***			ND			ND	
Chrysene	0.384	2.8		***1.30***			ND			ND	
Dibenzo(a,h)anthracene	0.063	0.26		ND			ND			ND	
Fluoranthene	0.60	5.1		***2.50***			***35***			ND	
Fluorene	0.019	0.54		ND			ND			ND	
Indeno(1,2,3-cd)pyrene	0.20	320		***0.54***			***5.6***			ND	
2-Methylnaphthalene	0.07	0.67		ND			***5.4***			ND	
Naphthalene	0.16	2.1		***0.48***			***7.6***			***170***	
Phenanthrene	0.24	1.5		***0.62***			***43***			ND	
Pyrene	0.665	2.6		***2.20***			***46***			ND	
Total PAHs	4	45		***11.83***			***220.6***			***170***	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Date Sampled:	--	--		09/23/92			09/23/92			09/23/92	
Pesticides											
Chlordane	0.007	--		0.0051			ND			ND	
Dieldrin	0.002	--		ND			ND			ND	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Date Sampled:	--	--		09/23/92			09/23/92			09/23/92	
PCB (total)	0.023	0.18									
Aroclor 1248	0.03	150		ND			ND			ND	
Aroclor 1254	0.06	34		***0.21***			ND			ND	

(1) - ER-L (Effects Range-Low): Concentration at which adverse benthic impacts are found in approximately 10% of studies

(2) - ER-M (Effects Range-Median): Concentration at which adverse effects to sensitive species and/or life stages are found in approximately 50% of studies.

**If results are bolded and italicized, results exceed the ER-L or ER-M values.

REMEDIAL ACTION WORKPLAN

November 2000

Standard Chlorine Chemical Company, Inc.
1035 Belleville Turnpike
Kearny, New Jersey

Table 4 – Summary of Surface Water Analytical Results
ERM – August 28, 1996

TABLE 4

SUMMARY OF SURFACE WATER ANALYTICAL RESULTS
OLLECTED AUGUST 28, 1996 BY ERM, INC.
TANDARD CHLORINE
Kʳ ᐨNY, NEW JERSEY

NOTES
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

.iro-Sciences, Inc.

Sample ID Number / Laboratory Sample Number / Date Sampled	Acute Surface Water Quality Standards for SE Waters	Chronic Surface Water Quality Standards for SE Waters	Other Surface Water Quality Standards for SE Waters	SW-1 08.28.96			SW-2 08.28.96			SW-3 08.28.96			SW-4 08.28.96		
				MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ug/L)	(ug/L)	(ug/L)		(ppm)			[illegible]			[illegible]			[illegible]	
Benzene			71	5	ND		5	ND		5	ND		5	ND	
Bromoform			360	5	ND		5	ND		5	ND		5	ND	
Carbon tetrachloride			5.31	5	ND		5	ND		5	ND		5	ND	
Chlorobenzene			21000	5	ND		5	ND		5	[illegible]	J	5	ND	
Chloroform			470	5	ND		5	ND		5	ND		5	ND	
1,2-Dichlorobenzene			16500	5	1.57	J	5	1.43	J	5	6.13		5	3.14	
1,3-Dichlorobenzene			22200	5	ND		5	ND		5	4.56	J	5	ND	
1,4-Dichlorobenzene			3158	5	1.47	J	5	1.21	J	5	6.37		5	1.8	
1,2-Dichloroethane			99	5	ND		5	ND		5	ND		5	ND	
Ethylbenzene			27900	5	ND		5	ND		5	ND		5	ND	
Methyl bromide			4000	5	ND		5	ND		5	ND		5	ND	
Methylene chloride			1600	5	ND		5	ND		5	ND		5	ND	
Tetrachloroethylene			4.29	5	ND		5	ND		5	ND		5	ND	
Toluene			200000	5	ND		5	ND		5	ND		5	ND	
1,2,4-Trichlorobenzene			113	5	ND		5	ND		5	ND		5	1.83	J
Trichloroethylene			81	5	ND		5	ND		5	ND		5	ND	
Vinyl Chloride			525	5	ND		5	ND		5	ND		5	ND	
Other Parameters															
pH			6.5-8.5		7.12			7.12			7.04			7.13	
Hardness			NLE		2600			2700			2900			2500	

ᐨnogenic effect-based human health criteria as a 30-day average with no frequency exceedence at or above design flows specified in N.J.A.C. 7.9B-1.5(c)2

ᐨgenic effect-based human health criteria as a 70-year average with no frequency of exceedance at or above the design flows specified in NJAC 7.9B-1.5(c)2

ᐨic substances considered to be possible carcinogens as a 70-year average with no frequency exceedence at or above design flows specified in N.J.A.C. 7.9B-1.5(c)2 and are based on a risk level of one-in-one hundred thousand

REMEDIAL ACTION WORKPLAN

November 2000

Standard Chlorine Chemical Company, Inc.
1035 Belleville Turnpike
Kearny, New Jersey

Table 5 – Summary of Sediment Analytical Results
ERM – August 28 – 29, 1996

NOTES
ft bgs - feet below ground surface
LEL - Lowest Effects Level
SEL - Severe Effects Level
NLE - No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below the MDL

TABLE 5

UMMARY OF SEDIMENT ANALYTICAL RESULTS
ECTED AUGUST 28-29, 1996 BY ERM, INC.
DARD CHLORINE
ARNY, NEW JERSEY

Enviro-Sciences, Inc.

Sample ID Number / Laboratory Sample Number / Depth Collected (ft bgs) / Date Sampled	Marine/Estuarine Screening Guidelines ER-L (1)	Marine/Estuarine Screening Guidelines ER-M (2)	SED-A1 BRI936 08/29/96			SED-A2 BRI938 08/28/96			SED-A3 BRI939 08/28/96		
			MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Volatile Organic											
Benzene	0.34	--		ND			ND			0.00453	J
Trichloroethylene	1.6	--		ND			ND			ND	
Tetrachloroethylene	0.45	--		ND			ND			ND	
Ethylbenzene	1.4	--		ND			ND			0.0157	
Toluene	2.5	--		ND			ND			0.00764	J
Xylene	>0.12	--		ND			ND			0.00779	J
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Dilution Factor	--	--									
Polynuclear Aromatic											
Naphthalene	0.16	2.1		0.00258	J		0.0335			***0.367***	
Total PAHs	4	45		0.00258			0.0335			0.367	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
Organic Carbon	--	--		33,500			56,650			59,750	
pH	--	--		6.88			6.63			6.20	

(1) - ER-L (Effects Range-Low): Concentration at which adverse benthic impacts are found in approximately 10% of studies.

(2) - ER-M (Effects Range-Median): Concentration at which adverse effects to sensitive species and/or life stages are found in approximately 50% of studies.

**If results are bolded and italicized, results exceed the ER-L or ER-M values.

NOTES
ft bgs - feet below ground surface
LEL - Lowest Effects Level
SEL - Severe Effects Level
NLE - No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

ABLE 5

MMARY OF SEDIMENT ANALYTICAL RESULTS
CTED AUGUST 28-29, 1996 BY ERM, INC.
DARD CHLORINE
RNY, NEW JERSEY

nviro-Sciences, Inc.

mple ID Number boratory Sample Number pth Collected (ft bgs) te Sampled:	Marine/Estuarine Screening Guidelines ER-L (1)	Marine/Estuarine Screening Guidelines ER-M (2)	SED-B1 BRI933 08/28/96			SED-B2 BRI934 08/29/96			SED-B3 BRI935 08/29/96		
			MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
MPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
ution Factor	--	--									
latile Organic											
nzene	0.34	--		ND			ND			ND	
hloroethylene	1.6	--		ND			ND			ND	
rachloroethylene	0.45	--		ND			ND			ND.	
ylbenzene	1.4	--		ND			ND			ND	
uene	2.5	--		ND			ND			ND	
ene	>0.12	--		ND			ND			ND	
MPOUNDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
tion Factor	--	--									
ynuclear Aromatic											
hthalene	0.16	2.1		0.00357	J		0.00688	J		0.00744	J
al PAHs	4	45		0.00357			0.00688			0.00744	
NDS (units)	(ppm)	(ppm)		(ppm)			(ppm)			(ppm)	
anic Carbon	--	--		33,450			24,550			22,050	
	--	--		7.52			7.50			7.59	

ER-L (Effects Range-Low): Concentration at which adverse benthic impacts are found in approximately 10% of studies.

ER-M (Effects Range-Median): Concentration at which adverse effects to sensitive species and/or life stages are found in approximately 50% of studies.

l results are bolded and italicized, results exceed the ER-L or ER-M values.

NOTES
ft bgs - feet below ground surface
LEL - Lowest Effects Level
SEL - Severe Effects Level
NLE _ No Level Established
MDL - Method Detection Limit
ppm - parts per million
Q - Qualifier
D - Diluted
ND - Not Detected
J - Concentration detected below MDL

TABLE 5

SUMMARY OF SEDIMENT ANALYTICAL RESULTS COLLECTED AUGUST 28-29, 1996 BY ERM, INC. STANDARD CHLORINE KEARNY, NEW JERSEY

Enviro-Sciences, Inc.

Sample ID Number Laboratory Sample Number: Depth Collected (ft bgs) Date Sampled:	Marine/Estuarine Screening Guidelines ER-L (1)	Marine-Estuarine Screening Guidelines ER-M (2)	SED-C1 BR1940 08/28/96		
			MDL	CONC	Q
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)	
Dilution Factor	--	--			
Volatile Organic					
Benzene	0.34	--		ND	
Trichloroethylene	1.6	--		ND	
Tetrachloroethylene	0.45	--		ND	
Ethylbenzene	1.4	--		ND	
Toluene	2.5	--		ND	
Xylene	>0.12	--		ND	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)	
Dilution Factor	--	--			
Polynuclear Aromatic					
Naphthalene	0.15	2.1		ND	
Total PAHs	4	45		0	
COMPOUNDS (units)	(ppm)	(ppm)		(ppm)	
Total Organic Carbon	--	--		48,050	
pH	--	--		4.46	

(1) - ER-L (Effects Range-Low): Concentration at which adverse benthic impacts are found in approximately 50% of studies.

(2) - ER-M (Effects Range-Median): Concentration at which adverse effects to sensitive species and/or life stages are found in approximately 50% of studies.

**If results are bolded and italicized, results exceed the ER-L or ER-M values.

2002 EPA Superfund Contract Support Team Sampling Report

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-01	SC-SW-01	SC-SED-02	SC-SW-02
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Acetone	ND	3 J	ND	12 JQE
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	ND	ND	3 J
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	5 J
Ethylbenzene	ND	ND	ND	ND
m,p-Xylene	ND	ND	ND	ND
o-Xylene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
JQE - Result is estimated because during validation for accuracy, it was found to be below the lower acceptance criteria				
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-03	SC-SW-03	SC-SED-04	SC-SW-04
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Acetone	ND	13JQE	ND	2 J
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	3 J	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	ND	4 J	ND	ND
Ethylbenzene	ND	ND	ND	ND
m,p-Xylene	ND	ND	ND	ND
o-Xylene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
JQE - Result is estimated because during validation for accuracy, it was found to be below the lower acceptance criteria				
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-05	SC-SW-05	SC-SED-06	SC-SW-06
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	5 J	ND	ND
Acetone	ND	3 J	ND	27 JQE
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	ND	ND	5 J
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	ND	ND	8 J
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	2 J
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	51
Ethylbenzene	ND	ND	ND	3 J
m,p-Xylene	ND	ND	ND	7 J
o-Xylene	ND	ND	ND	4 J
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
JQE - Result is estimated because during validation for accuracy, it was found to be below the lower acceptance criteria				
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-07	SC-SW-07	SC-SED-08	SC-SW-08
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Acetone	ND	ND	ND	16 JQE
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	3 J	ND	3 J
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	39	ND	9 J
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	6 J	ND	3 J
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	860 J	260 J	ND	68 JQP
Ethylbenzene	ND	7 J	ND	2 J
m,p-Xylene	ND	8 J	ND	4 J
o-Xylene	ND	6 J	ND	2 J
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
JQE - Result is estimated because during validation for accuracy, it was found to be below the lower acceptance criteria				
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				
JQP - The result was estimated because sample replicate precision did not meet acceptance criteria				
[illegible]	ND	ND	ND	ND

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-09	SC-SW-09	SC-SED-10	SC-SW-10
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Acetone	ND	9.0 J	ND	6.0 J
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	2.0 J	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	ND	3.0 J	ND	2.0 J
Ethylbenzene	ND	ND	ND	ND
m,p-Xylene	ND	ND	ND	ND
o-Xylene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-30	SC-SW-30	SC-SED-11	SC-SW-11
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Acetone	ND	6.0 J	ND	9.0 J
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	3.0 J
Ethylbenzene	ND	ND	ND	ND
m,p-Xylene	ND	ND	ND	ND
o-Xylene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				
SC-SED-30 is a duplicate of SC-SED-10 and SC-SW-30 is a duplicate of SC-SW-10				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-12	SC-SW-12	SC-SED-13	SC-SW-13
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	2.0 J	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Acetone	ND	22 JQE	ND	5.0 J
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	4.0 J	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	8.0 J	ND	ND
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	2.0 J	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	ND	31	14,000	3.0 J
Ethylbenzene	ND	4.0 J	ND	ND
m,p-Xylene	ND	6.0 J	ND	ND
o-Xylene	ND	4.0 J	ND	ND
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
JQE - Result is estimated because during validation for accuracy, it was found to be below the lower acceptance criteria				
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-14	SC-SW-14	SC-SED-15	SC-SW-15
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Acetone	ND	5.0 J	ND	5.0 J
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
m,p-Xylene	ND	ND	ND	ND
o-Xylene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-16	SC-SW-16	SC-SED-17	SC-SW-17
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Acetone	ND	6.0 J	ND	4.0 J
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	2200 J	ND	2000 J	ND
Ethylbenzene	ND	ND	ND	ND
m,p-Xylene	ND	ND	ND	ND
o-Xylene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-18	SC-SW-18	SC-SED-31	SC-SW-31
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
Acetone	ND	5.0 J	ND	5.0 J
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	2000 J	9.0 J	2100 J	9.0 J
Ethylbenzene	ND	ND	ND	ND
m,p-Xylene	ND	ND	ND	ND
o-Xylene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND

ND - Non detect

J - At a low level, the compound was detected, however, the numerical result is estimated.

SC-SED-31 is a duplicate of SC-SED-18 and SC-SW-31 is a duplicate of SC-SW-18

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-19	SC-SW-19	SC-SED-20	SC-SW-20
	ug/Kg	ug/L	ug/Kg	ug/L
Dichlorodifluormethane	ND	ND	ND	3.0 J
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	3.0 J
Acetone	ND	5.0 J	ND	11 JQE
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	ND	ND	2.0 J
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	15	ND	29
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	250,000	250 J	43,000	600
Ethylbenzene	ND	ND	ND	2.0 J
m,p-Xylene	ND	ND	ND	5.0 J
o-Xylene	ND	ND	ND	2.0 J
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
JQE - Result is estimated because during validation for accuracy, it was found to be below the lower acceptance criteria				
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	SC-SED-21	SC-SW-21	TB-01	TB-02
	ug/Kg	ug/L	ug/L	ug/L
Dichlorodifluormethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ND	ND
Carbon Disulfide	ND	37	ND	ND
Acetone	ND	3.0 J	ND	ND
Methyl acetate	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichlororethane	ND	ND	ND	ND
Cyclohexane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Benzene	ND	23	ND	ND
Trichloroethene	ND	ND	ND	ND
Methylcyclohexane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
1,2-Dibromomethane	ND	ND	ND	ND
Chlorobenzene	41,000	760	ND	ND
Ethylbenzene	ND	ND	ND	ND
m,p-Xylene	ND	ND	ND	ND
o-Xylene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 1 - VOLATILE ORGANIC COMPOUND SAMPLE SUMMARY

VOCs	RB-01			
	ug/L			
Dichlorodifluormethane	ND			
Chloromethane	ND			
Vinyl Chloride	ND			
Bromomethane	ND			
Chloroethane	ND			
Trichlorofluoromethane	ND			
1,1-Dichloroethene	ND			
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND			
Carbon Disulfide	ND			
Acetone	2 J			
Methyl acetate	ND			
Methylene chloride	ND			
trans-1,2-Dichloroethene	ND			
cis-1,2-Dichloroethene	ND			
Methyl tert-butyl ether	ND			
1,1-Dichloroethane	ND			
2-Butanone	ND			
Chloroform	ND			
1,2-Dichloroethane	ND			
1,1,1-Trichlororethane	ND			
Cyclohexane	ND			
Carbon Tetrachloride	ND			
Benzene	ND			
Trichloroethene	ND			
Methylcyclohexane	ND			
1,2-Dichloropropane	ND			
Bromodichloromethane	ND			
cis-1,3-Dichloropropene	ND			
trans-1,3-Dichloropropene	ND			
1,1,2-Trichloroethane	ND			
Dibromochloromethane	ND			
Bromoform	ND			
4-Methyl-2-pentanone	ND			
Toluene	ND			
Tetrachloroethene	ND			
2-Hexanone	ND			
1,2-Dibromomethane	ND			
Chlorobenzene	ND			
Ethylbenzene	ND			
m,p-Xylene	ND			
o-Xylene	ND			
Styrene	ND			
Isopropylbenzene	ND			
1,1,2,2-Tetrachloroethane	ND			
1,2-Dibromo-3-chloropropane	ND			
ND - Non detect				
J - At a low level, the compound was detected, however, the numerical result is estimated.				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-01	SC-SW-01	SC-SED-02	SC-SW-02
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	350 J	ND	ND	ND
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	1.0 J
1,4-Dichlorobenzene	190 J	2.0 J	560 J	4.0 J
1,2-Dichlorobenzene	ND	ND	ND	3.0 J
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	6.2
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	270 J	ND	ND	ND
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	12
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	7100	ND	2800	45
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	1900	ND	490 J	10
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	1.0 J
Acenaphthylene	10000	3.0 J	2500	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	5600	1.0 J	1200 J	2.0 J
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	6000	ND	1100 J	2.0 J
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	8300	ND	1600	ND
Diethylphthalate	210	ND	ND	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
J - Due to a low level, the result is verified, but not quantitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-01	SC-SW-01	SC-SED-02	SC-SW-02
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	63000	5.1	11000	ND
Anthracene	23000	4.0 J	4600	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	97000	16	20000	ND
Pyrene	83000	19	17000	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	61000	7.6	11000	ND
Chrysene	60000	8.6	11000	ND
bis(2-ethylhexyl)Phthalate	4700	11	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	74000	12	13000	ND
Benzo(k)fluoranthene	27000	4.3	5200	ND
Benzo(a)pyrene	63000	9.1	10000	ND
Indeno(1,2,3-cd)pyrene	43000	6.5	7200	ND
Dibenzo(a,h)anthracene	2300	ND	710 J	ND
Benzo(g,h,i)perylene	41000	6.3	6600	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-03	SC-SW-03	SC-SED-04	SC-SW-04
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	ND	ND	ND	ND
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	1.0 J	ND	ND
1,4-Dichlorobenzene	590 J	4.0 J	ND	ND
1,2-Dichlorobenzene	ND	3.0 J	ND	ND
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	11	ND	ND
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	3600	42	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	550 J	9.7	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	5700	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	2300	2.0 J	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	1600	2.0 J	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	2500	ND	ND	ND
Diethylphthalate	1000	ND	340 J	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-03	SC-SW-03	SC-SED-04	SC-SW-04
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	15000	ND	230 J	ND
Anthracene	7400	ND	140 J	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	31000	ND	870	ND
Pyrene	24000	ND	690	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	17000	ND	490 J	ND
Chrysene	15000	ND	640	ND
bis(2-ethylhexyl)Phthalate	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	20000	ND	640	ND
Benzo(k)fluoranthene	5700	ND	260 J	ND
Benzo(a)pyrene	15000	ND	460 J	ND
Indeno(1,2,3-cd)pyrene	9000	ND	270 J	ND
Dibenzo(a,h)anthracene	920 J	ND	ND	ND
Benzo(g,h,i)perylene	7700	ND	250 J	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-05	SC-SW-05	SC-SED-06	SC-SW-06
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	ND	ND	ND	15
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	220 J	52
1,4-Dichlorobenzene	380 J	ND	350 J	79
1,2-Dichlorobenzene	ND	ND	400 J	90
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	17
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	45
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	2.0 J	ND	16
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	1900	ND	520 J	77
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	ND	ND	430 J	44
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	3.0 J
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	230 J	13
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	5.9
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
Diethylphthalate	1300 J	ND	490 J	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-05	SC-SW-05	SC-SED-06	SC-SW-06
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	660 J	ND	730 J	3.0 J
Anthracene	ND	ND	ND	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	950 J	1.0 J	830 J	ND
Pyrene	940 J	1.0 J	700 J	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	500 J	ND
Chrysene	420 J	ND	680 J	ND
bis(2-ethylhexyl)Phthalate	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	450 J	ND	850 J	ND
Benzo(k)fluoranthene	ND	ND	320 J	ND
Benzo(a)pyrene	ND	ND	570 J	ND
Indeno(1,2,3-cd)pyrene	ND	ND	430 J	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	400 J	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-07	SC-SW-07	SC-SED-08	SC-SW-08
Phenol	ND	ND	ND	ND
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	1.0 J	ND	ND
1,3-Dichlorobenzene	200 J	65	840	29
1,4-Dichlorobenzene	480 J	200	3000	77
1,2-Dichlorobenzene	400 J	150	930	68
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	39	ND	24
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	ND	37	ND	29
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	81	ND	43
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	5.9	ND	2.0 J
1,2,4-Trichlorobenzene	430 J	82	1400	33
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	410 J	270	4500	100
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	ND	40	1400	24
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	ND	1.0 J	520 J	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	150 J	38	2400	20
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	18	1600	10
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	ND	9	1000	4.9
Diethylphthalate	200 J	ND	210 J	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-07	SC-SW-07	SC-SED-08	SC-SW-08
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	330 J	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	140 J	7.8	2000	4.0 J
Anthracene	ND	ND	630 J	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	180 J	1.0 J	2900	ND
Pyrene	160 J	ND	2800	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	2000	ND
Chrysene	140 J	ND	2500	ND
bis(2-ethylhexyl)Phthalate	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	180 J	ND	3200	ND
Benzo(k)fluoranthene	ND	ND	1200	ND
Benzo(a)pyrene	ND	ND	2200	ND
Indeno(1,2,3-cd)pyrene	ND	ND	1800	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	1600	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-09	SC-SW-09	SC-SED-10	SC-SW-10
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	450 J	12	ND	ND
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	300 J	3.0 J	ND	5.8
1,4-Dichlorobenzene	640 J	5.6	240 J	6
1,2-Dichlorobenzene	230 J	2.0 J	ND	2.0 J
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	6.6	ND	ND
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	290 J	17	ND	ND
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	2.0 J	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorobenzene	320 J	1.0 J	ND	ND
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	6300	33	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	2200	15	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	610 J	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	700 J	3.0 J	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	710 J	3.0 J	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	290 J	ND	ND	ND
Diethylphthalate	310 J	ND	340 J	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
J - Due to a low level, the result is verified, but not quantified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-09	SC-SW-09	SC-SED-10	SC-SW-10
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	1700	ND	330 J	ND
Anthracene	1100	ND	ND	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	3400	ND	820	ND
Pyrene	3400	ND	790	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	2500	ND	570 J	ND
Chrysene	3800	ND	800	ND
bis(2-ethylhexyl)Phthalate	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	4500	ND	920	ND
Benzo(k)fluoranthene	1800	ND	360 J	ND
Benzo(a)pyrene	3200	ND	730	ND
Indeno(1,2,3-cd)pyrene	2500	ND	580 J	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND
Benzo(g,h,i)perylene	2300	ND	580 J	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-30	SC-SW-30	SC-SED-11	SC-SW-11
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	ND	ND	310 J	ND
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND.	ND	ND	ND
1,3-Dichlorobenzene	ND	5.1	320 J	6.9
1,4-Dichlorobenzene	200 J	5.2	400 J	6.3
1,2-Dichlorobenzene	ND	2.0 J	ND	3.0 J
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	1.0 J
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	ND	ND	840	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	230 J	ND
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
Diethylphthalate	ND	ND	310 J	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
SC-SED-30 is duplicate of SC-SED-10 and SC-SW-30 is a duplicate of SC-SW-10				
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-30	SC-SW-30	SC-SED-11	SC-SW-11
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	ND	790	ND
Anthracene	ND	ND	330 J	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	270 J	ND	1400	ND
Pyrene	240 J	ND	1500	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	830	ND
Chrysene	200 J	ND	1400	ND
bis(2-ethylhexyl)Phthalate	ND	ND	ND	1.0 J
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	270 J	ND	1100	ND
Benzo(k)fluoranthene	ND	ND	450 J	ND
Benzo(a)pyrene	200 J	ND	860	ND
Indeno(1,2,3-cd)pyrene	160 J	ND	620 J	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND
Benzo(g,h,i)perylene	170 J	ND	630 J	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				
SC-SED-30 is a duplicate of SC-SED-10 and SC-SW-30 is a duplicate of SC-SW-10				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-12	SC-SW-12	SC-SED-13	SC-SW-13
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	370 J	31	ND	ND
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	12	12000	6.4
1,4-Dichlorobenzene	310 J	15	18000	4.0 J
1,2-Dichlorobenzene	1000 J	58	6400	ND
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	8.5	ND	ND
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	ND	39	ND	ND
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorobenzene	590 J	6.7	2500 J	ND
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	3700	240	3400	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	3900	80	660 J	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	1400 J	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	600 J	9.3	11000	ND
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	15	3000	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	ND	2.0 J	ND	ND
Diethylphthalate	ND	ND	2600 J	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-12	SC-SW-12	SC-SED-13	SC-SW-13
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	1200	4.9	3300	ND
Anthracene	ND	ND	2200 J	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	750 J	ND	9800	ND
Pyrene	550 J	ND	9300	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	6400	ND
Chrysene	ND	ND	8200	ND
bis(2-ethylhexyl)Phthalate	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	350 J	ND	11000	ND
Benzo(k)fluoranthene	ND	ND	3200	ND
Benzo(a)pyrene	ND	ND	7600	ND
Indeno(1,2,3-cd)pyrene	ND	ND	4800	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	4500	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-14	SC-SW-14	SC-SED-15	SC-SW-15
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	ND	ND	ND	ND
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	5500	4.0 J	2900 J	3.0 J
1,4-Dichlorobenzene	8900	4.0 J	5100	3.0 J
1,2-Dichlorobenzene	3300	2.0 J	1600 J	ND
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorobenzene	1300 J	ND	ND	ND
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	4900	2.0 J	2700 J	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	ND	1.0 J	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	870 J	ND	1300 J	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	1200 J	ND	1300 J	ND
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	800 J	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
Diethylphthalate	2700 J	ND	2800 J	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-14	SC-SW-14	SC-SED-15	SC-SW-15
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	4500	ND	4300	ND
Anthracene	1600 J	ND	1700 J	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	10000	ND	8800	ND
Pyrene	9800	ND	8500	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	6100	ND	4700	ND
Chrysene	7600	ND	6700	ND
bis(2-ethylhexyl)Phthalate	ND	1.0 J	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	11000	ND	7800	ND
Benzo(k)fluoranthene	3900	ND	3100 J	ND
Benzo(a)pyrene	8100	ND	5800	ND
Indeno(1,2,3-cd)pyrene	5300	ND	3600	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND
Benzo(g,h,i)perylene	4800	ND	3300 J	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-16	SC-SW-16	SC-SED-17	SC-SW-17
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	ND	ND	ND	ND
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	9600	4.0 J	1200 J	13
1,4-Dichlorobenzene	13,000	4.2	2200	3.0 J
1,2-Dichlorobenzene	4700	ND	760 J	ND
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorobenzene	1600 J	ND	ND	ND
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	5700	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	710 J	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	880 J	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	830 J	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	620 J	ND	ND	ND
Diethylphthalate	2600	ND	ND	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-16	SC-SW-16	SC-SED-17	SC-SW-17
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	4900	ND	710 J	ND
Anthracene	1800 J	ND	ND	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	12000	ND	1900	ND
Pyrene	11000	ND	1800	ND
Butyl benzyl phthalate	ND	ND	390 J	ND
Benzo(a)anthracene	7600	ND	680 J	ND
Chrysene	9600	ND	910 J	ND
bis(2-ethylhexyl)Phthalate	ND	ND	1400 J	ND
Di-n-octyl phthalate	ND	ND	770 J	ND
Benzo(b)fluoranthene	12000	ND	1200 J	ND
Benzo(k)fluoranthene	4500	ND	440 J	ND
Benzo(a)pyrene	9300	ND	850 J	ND
Indeno(1,2,3-cd)pyrene	5500	ND	690 J	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND
Benzo(g,h,i)perylene	4700	ND	660 J	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-18	SC-SW-18	SC-SED-31	SC-SW-31
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	ND	ND	ND	ND
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	830 J	30	580 J	30
1,4-Dichlorobenzene	1400	11	890 J	9
1,2-Dichlorobenzene	870 J	ND	500 J	ND
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorobenzene	510 J	2.0 J	390 J	2.0 J
Benzoic acid	ND	N/A	9800	N/A
Naphthalene	970	ND	830 J	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
SC-SED-31 is a duplicate of SC-SED-18 and SC-SW-31 is a duplicate of SC-SW-18				
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-18	SC-SW-18	SC-SED-31	SC-SW-31
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	820 J	ND	510 J	ND
Anthracene	250 J	ND	ND	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	2000	ND	1100	ND
Pyrene	1800	ND	960 J	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	1000	ND	550 J	ND
Chrysene	1300	ND	690 J	ND
bis(2-ethylhexyl)Phthalate	2000	ND	840 J	ND
Di-n-octyl phthalate	250 J	ND	ND	ND
Benzo(b)fluoranthene	1700	ND	1000	ND
Benzo(k)fluoranthene	620 J	ND	400 J	ND
Benzo(a)pyrene	1200	ND	780 J	ND
Indeno(1,2,3-cd)pyrene	900 J	ND	710 J	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND
Benzo(g,h,i)perylene	830 J	ND	710 J	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				
SC-SED-31 is a duplicate of SC-SED-18 and SC-SW-31 is a duplicate of SC-SW-10				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-19	SC-SW-19	SC-SED-20	SC-SW-20
	ug/Kg	ug/L	ug/Kg	ug/L
Phenol	ND	1.0 J	ND	5.5
bis(2-chloroethyl)Ether	ND	ND	ND	ND
2-Chlorophenol	ND	1.0 J	ND	4.4
1,3-Dichlorobenzene	3900000	85	9300	390
1,4-Dichlorobenzene	6000000	46	21000	420
1,2-Dichlorobenzene	5300000	35	4600	450
Benzyl alcohol	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-chloroisopropyl)Ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	4.0 J
n-Nitros-di-n-propylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
bis(2-chloroethoxy)Methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	4.0 J	ND	5.7
1,2,4-Trichlorobenzene	2900000	4.0 J	1700	45
Benzoic acid	ND	N/A	ND	N/A
Naphthalene	23000	3.0 J	ND	23
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methyl naphthalene	31000	ND	ND	2.0 J
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	3300 J	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
n-Nitrosodiphenylamine	ND	ND	ND	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-19	SC-SW-19	SC-SED-20	SC-SW-20
	ug/Kg	ug/L	ug/Kg	ug/L
Diazene, diphenyl	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	9600 J	ND	760 J	ND
Anthracene	ND	ND	ND	ND
Di-n-Butyl phthalate	ND	ND	ND	ND
Fluoranthene	12000 J	ND	1600 J	ND
Pyrene	10000 J	ND	1400 J	ND
Butyl benzyl phthalate	ND	ND	ND	ND
Benzo(a)anthracene	6800 J	ND	520 J	ND
Chrysene	9200 J	ND	800 J	ND
bis(2-ethylhexyl)Phthalate	21000	ND	1300 J	ND
Di-n-octyl phthalate	ND	ND	880 J	ND
Benzo(b)fluoranthene	11,000 J	ND	870 J	ND
Benzo(k)fluoranthene	3700 J	ND	ND	ND
Benzo(a)pyrene	6400 J	ND	590 J	ND
Indeno(1,2,3-cd)pyrene	5100 J	ND	460 J	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND
Benzo(g,h,i)perylene	5300 J	ND	500 J	ND
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY

Base/Neutral and Acids	SC-SED-21	SC-SW-21	RB-01	
	ug/Kg	ug/L	ug/L	
Phenol	ND	4.5	ND	
bis(2-chloroethyl)Ether	ND	ND	ND	
2-Chlorophenol	ND	4.0 J	ND	
1,3-Dichlorobenzene	64000	430	ND	
1,4-Dichlorobenzene	240000	610	ND	
1,2-Dichlorobenzene	32000	190	ND	
Benzyl alcohol	ND	ND	ND	
2-Methylphenol	ND	ND	ND	
bis(2-chloroisopropyl)Ether	ND	ND	ND	
4-Methylphenol	ND	3.0 J	ND	
n-Nitros-di-n-propylamine	ND	ND	ND	
Hexachloroethane	ND	ND	ND	
Nitrobenzene	ND	ND	ND	
Isophorone	ND	ND	ND	
2-Nitrophenol	ND	ND	ND	
2,4-Dimethylphenol	ND	ND	ND	
bis(2-chloroethoxy)Methane	ND	ND	ND	
2,4-Dichlorophenol	ND	34	ND	
1,2,4-Trichlorobenzene	25000	200	ND	
Benzoic acid	ND	N/A	ND	
Naphthalene	1100	5.6	ND	
4-Chloroaniline	ND	ND	ND	
Hexachlorobutadiene	ND	ND	ND	
4-Chloro-3-methylphenol	ND	ND	ND	
2-Methyl naphthalene	ND	ND	ND	
Hexachlorocyclopentadiene	ND	ND	ND	
2,4,6-Trichlorophenol	ND	ND	ND	
2,4,5-Trichlorophenol	ND	ND	ND	
2-Chloronaphthalene	ND	ND	ND	
2-Nitroaniline	ND	ND	ND	
Dimethyl phthalate	ND	ND	ND	
Acenaphthylene	ND	ND	ND	
2,6-Dinitrotoluene	ND	ND	ND	
3-Nitroaniline	ND	ND	ND	
Acenaphthene	ND	ND	ND	
2,4-Dinitrophenol	ND	ND	ND	
4-Nitrophenol	ND	ND	ND	
Dibenzofuran	ND	ND	ND	
2,4-Dinitrotoluene	ND	ND	ND	
Fluorene	ND	ND	ND	
Diethylphthalate	ND	ND	ND	
4-Chlorophenyl phenyl ether	ND	ND	ND	
4-Nitroaniline	ND	ND	ND	
4,6-Dinitro-2-methylphenol	ND	ND	ND	
n-Nitrosodiphenylamine	ND	ND	ND	
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 2 - BASE/NEUTRAL AND ACID SAMPLE SUMMARY CONTINUED

Base/Neutral and Acids Cont.	SC-SED-21	SC-SW-21	RB-01	
	ug/Kg	ug/L	ug/L	
Diazene, diphenyl	ND	ND	ND	
4-Bromophenyl phenyl ether	ND	ND	ND	
Hexachlorobenzene	ND	ND	ND	
Pentachlorophenol	ND	ND	ND	
Phenanthrene	4500	ND	ND	
Anthracene	1800 J	ND	ND	
Di-n-Butyl phthalate	ND	ND	ND	
Fluoranthene	12000	ND	ND	
Pyrene	11000	ND	ND	
Butyl benzyl phthalate	ND	ND	ND	
Benzo(a)anthracene	9700	ND	ND	
Chrysene	11000	ND	ND	
bis(2-ethylhexyl)Phthalate	1500 J	ND	ND	
Di-n-octyl phthalate	ND	ND	ND	
Benzo(b)fluoranthene	11,000	ND	ND	
Benzo(k)fluoranthene	4300	ND	ND	
Benzo(a)pyrene	6700	ND	ND	
Indeno(1,2,3-cd)pyrene	3000 J	ND	ND	
Dibenzo(a,h)anthracene	ND	ND	ND	
Benzo(g,h,i)perylene	2300 J	ND	ND	
J - Due to a low level, the result is verified, but not quanitified				
ND - Non-detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides	SC-SED-01	SC-SW-01	SC-SED-02	SC-SW-02
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	ND	ND	ND	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	0.02
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	ND	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-03	SC-SW-03	SC-SED-04	SC-SW-04
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	ND	ND	ND	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	ND	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-05	SC-SW-05	SC-SED-06	SC-SW-06
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	21	ND	ND	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	ND	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-07	SC-SW-07	SC-SED-08	SC-SW-08
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	ND	ND	ND	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	6	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	ND	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-09	SC-SW-09	SC-SED-10	SC-SW-10
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	ND	ND	ND	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	8	ND	ND	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	ND	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-30	SC-SW-30	SC-SED-11	SC-SW-11
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	ND	ND	ND	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	ND	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				
SC-SED-30 is a duplicate of SC-SED-10 and SC-SW-30 is a duplicate of SC-SW-10				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-12	SC-SW-12	SC-SED-13	SC-SW-13
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	ND	ND	73	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	30	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	ND	ND	1900	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-14	SC-SW-14	SC-SED-15	SC-SW-15
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	ND	ND	ND	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	22	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	ND	ND
Dieldrin	67	ND	64	ND
Endrin	ND	ND	89	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	40	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	ND	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-16	SC-SW-16	SC-SED-17	SC-SW-17
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	ND	ND	31	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	240	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-18	SC-SW-18	SC-SED-31	SC-SW-31
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	15	ND	ND	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	ND	ND	51	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				
SC-SED-31 is a duplicate of SC-SED-18 and SC-SW-31 is a duplicate of SC-SW-18				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-19	SC-SW-19	SC-SED-20	SC-SW-20
	ug/Kg	ug/L	ug/Kg	ug/L
alpha-BHC	ND	ND	ND	ND
gamma-BHC	ND	ND	ND	ND
beta-BHC	ND	ND	13	ND
delta-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND
4,4'DDE	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
4,4'DDD	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
4,4'DDT	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND
Endrin ketone	37	ND	ND	ND
Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND
PCBs				
	ug/Kg	ug/L	ug/Kg	ug/L
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	710	ND	ND	ND
Aroclor 1260	ND	ND	ND	ND
ND - Non detect				

TABLE 3 - PESTICIDE AND PCB SAMPLE SUMMARY

Pesticides/PCBs	SC-SED-21	SC-SW-21	RB-01	
	ug/Kg	ug/L	ug/L	
alpha-BHC	ND	ND	ND	
gamma-BHC	ND	ND	ND	
beta-BHC	ND	ND	ND	
delta-BHC	ND	ND	ND	
Heptachlor	ND	ND	ND	
Aldrin	ND	ND	ND	
Heptachlor epoxide	ND	ND	ND	
gamma-Chlordane	ND	ND	ND	
alpha-Chlordane	ND	ND	ND	
Endosulfan I	ND	ND	ND	
4,4'DDE	28	ND	ND	
Dieldrin	ND	ND	ND	
Endrin	ND	ND	ND	
4,4'DDD	ND	ND	ND	
Endosulfan II	ND	ND	ND	
4,4'DDT	ND	ND	ND	
Endrin aldehyde	ND	ND	ND	
Methoxychlor	ND	ND	ND	
Endosulfan sulfate	ND	ND	ND	
Endrin ketone	ND	ND	ND	
Chlordane	ND	ND	ND	
Toxaphene	ND	ND	ND	
PCBs				
	ug/Kg	ug/L	ug/L	
Aroclor 1016	ND	ND	ND	
Aroclor 1221	ND	ND	ND	
Aroclor 1232	ND	ND	ND	
Aroclor 1242	ND	ND	ND	
Aroclor 1248	ND	ND	ND	
Aroclor 1254	ND	ND	ND	
Aroclor 1260	ND	ND	ND	
ND - Non detect				

TABLE 4 - CHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURAN SAMPLE SUMMARY

Dioxins and Furans	SC-SED-01	SC-SED-02	SC-SED-03	SC-SED-04
	ng/kg	ng/kg	ng/kg	ng/kg
		Diluted sample		
2378-TCDD	39.8	96.1	89.8	7.86
2378-TCDF	55.9	93.7	101	13.8
12378-PeCDF	10.1	13	14.4	2.4
12378-PeCDD	6.31	8.02 X	9.58	0.848 X
23478-PeCDF	28.4	60.2	60	9.89 J
123478-HxCDF	236	525	548	99.7
123678-HxCDF	42	76.2	80	14.3
123478-HxCDD	4.68	4.62 X	8.71	1.07
123678-HxCDD	9.84	18.5	24.9	2.74
123789-HxCDD	8.27	13.9	15.3	1.8
234678-HxCDF	17.3	44.6	41.3	5.21 J
123789-HxCDF	ND	ND	ND	ND
1234678-HpCDF	881	1860	1600	318
1234678-HpCDD	102	218	244	23.6
1234789-HpCDF	24.3	62.1	52	10 J
OCDD	1430	2820	2700	257
OCDF	1060	2950	2670	487
Total Dioxins				
Total TCDD	68.5	231	225	28.2
Total PeCDD	25.5	48.2	53.3	11.6
Total HxCDD	107	152	220	13.2
Total HpCDD	243	590	612	57
Total Furans				
Total TCDF	294	296	499	64.1
Total PeCDF	233	544	575	86.4
Total HxCDF	623	1030	1160	204
Total HpCDF	1030	2140	1980	357
X - The result is estimated because at a low level, the GC/MS was unable to give an exact				
positive identification of the compound.				
J - The results were less than 5 times the concentration of the compound in the rinsate blank				
and were therefore, estimated.				
ND - Non detect				

TABLE 4 - CHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURAN SAMPLE SUMMARY

Dioxins and Furans	SC-SED-05	SC-SED-06	SC-SED-07	SC-SED-08
	ng/kg	ng/kg	ng/kg	ng/kg
	Diluted	Diluted	Diluted	Diluted
2378-TCDD	14.6	6.33	4.99	ND
2378-TCDF	307	361	377	389
12378-PeCDF	104	76.8	95.3	116
12378-PeCDD	23.7	18.3	10.3 X	15.5 X
23478-PeCDF	647	460	557	641
123478-HxCDF	9850	4880	7650	9090
123678-HxCDF	1450	634	993	1080
123478-HxCDD	24.6	12.1	14.4	19.1
123678-HxCDD	49.8	41.3	48.3	55.5
123789-HxCDD	23.8	19.5 X	20	25.2
234678-HxCDF	605	291	505	613
123789-HxCDF	ND	ND	ND	ND
1234678-HpCDF	34,100	16,100	24,300	31,400
1234678-HpCDD	206	252	133	231
1234789-HpCDF	1000	486	737	859
OCDD	1630	2170	1380	2300
OCDF	65,300	24,300	38,100	47,900
Total Dioxins				
Total TCDD	153	167	182	244
Total PeCDD	156	161	74.9	193
Total HxCDD	178	260	160	385
Total HpCDD	413	498	286	487
Total Furans				
Total TCDF	1690	2570	2950	4060
Total PeCDF	5060	3990	5630	6140
Total HxCDF	18,000	9740	15,600	17,900
Total HpCDF	38,600	18,500	28,100	35,700
X - The result is estimated because at a low level, the GC/MS was unable to give an exact				
positive identification of the compound.				
ND - Non detect				

TABLE 4 - CHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURAN SAMPLE SUMMARY

Dioxins and Furans	SC-SED-09	SC-SED-10	SC-SED-30	SC-SED-11
	ng/kg	ng/kg	ng/kg	ng/kg
	Diluted	Diluted	Diluted	Diluted
2378-TCDD	5.1	6.95	ND	1.53
2378-TCDF	200	49.2	49.3	41.3
12378-PeCDF	84.8	16.5	15.4	18.9
12378-PeCDD	9.86	1.98	ND	1.93 X
23478-PeCDF	364	81.7	80.1	62.7
123478-HxCDF	4330	952	872	587
123678-HxCDF	604	130	127	102
123478-HxCDD	14.3	3.08	1.94	1.93
123678-HxCDD	39.6	7.22	6.95	4.43
123789-HxCDD	20.3	2.42 X	2.97 X	4.79
234678-HxCDF	283	63.3	77.8	57.8
123789-HxCDF	ND	ND	ND	ND
1234678-HpCDF	13,400	3,330	2,820	1,900
1234678-HpCDD	799	46.1	52.3	47.2
1234789-HpCDF	378	84.3	77	50.4
OCDD	13,700	517	463	395
OCDF	21,000	5,680	4,070	2,910
Total Dioxins				
Total TCDD	117	11	15.7	23.9
Total PeCDD	100	10.3	ND	5.81
Total HxCDD	148	38	41.4	31.7
Total HpCDD	1650	109	127	101
Total Furans				
Total TCDF	1410	322	307	261
Total PeCDF	3190	733	711	480
Total HxCDF	8,810	2010	1,780	1,150
Total HpCDF	15,300	3,670	3,140	2,270
X - The result is estimated because at a low level, the GC/MS was unable to give an exact				
positive identification of the compound.				
ND - Non detect				
SCD30 is a blind duplicate of SCD10				

TABLE 4 - CHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURAN SAMPLE SUMMARY

Dioxins and Furans	SC-SED-12	SC-SED-13	SC-SED-14	SC-SED-15
	ng/kg	ng/kg	ng/kg	ng/kg
	Diluted	Diluted	Diluted	Diluted
2378-TCDD	2.01	96.4	81	91.7
2378-TCDF	47.4	1140	1420	911
12378-PeCDF	26.9	397	525	334
12378-PeCDD	1.71 X	58.9	55.2	43.4
23478-PeCDF	108	1430	1430	1010
123478-HxCDF	1350	18,500	17,800	12,100
123678-HxCDF	206	2670	2670	1980
123478-HxCDD	3.28	70.1	57.3	46.2
123678-HxCDD	8.22	152	157	119
123789-HxCDD	5.05	58.3	98.9	72.2
234678-HxCDF	101	1260	859	748
123789-HxCDF	ND	ND	51.2	43.1
1234678-HpCDF	4,660	52,400	51,400	38,200
1234678-HpCDD	63.7	917	902	733
1234789-HpCDF	120	1540	1690	1050
OCDD	394	9550	9750	960
OCDF	6,170	74,500	79,700	66,600
Total Dioxins				
Total TCDD	26.8	669	677	535
Total PeCDD	11.8	576	525	450
Total HxCDD	37	1200	1270	757
Total HpCDD	144	2010	1890	1540
Total Furans				
Total TCDF	334	14,300	18,100	8320
Total PeCDF	1000	17,300	19,300	11,500
Total HxCDF	2,870	37,900	36,900	24,700
Total HpCDF	5,370	59,400	58,500	42,800

X - The result is estimated because at a low level, the GC/MS was unable to give an exact positive identification of the compound.

ND - Non detect

TABLE 4 - CHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURAN SAMPLE SUMMARY

Dioxins and Furans	SC-SED-16	SC-SED-17	SC-SED-18	SC-SED-31
	ng/kg	ng/kg	ng/kg	ng/kg
	Diluted	Diluted	Diluted	Diluted
2378-TCDD	50	8.83	6.12	3.27 X
2378-TCDF	668	153	72.6	77.2
12378-PeCDF	234	94.8	39.1	36.1
12378-PeCDD	58.9	15.8 X	6.96 X	10.1 X
23478-PeCDF	668	221	116	115
123478-HxCDF	5110	2,430	1,190	1,190
123678-HxCDF	947	392	191	177
123478-HxCDD	41.3	12	7.66	23.4
123678-HxCDD	110	28.5	16	22.3
123789-HxCDD	97.3	28.3	14 X	35.6 X
234678-HxCDF	537	188	80.5	89.2
123789-HxCDF	25.2	9.82	4.66	ND
1234678-HpCDF	20,200	9,510	4,360	3,660
1234678-HpCDD	976	201	139	159
1234789-HpCDF	548	246	104	113
OCDD	10,000	1810	1250	1270
OCDF	26,000	13,300	5,330	6,710
Total Dioxins				
Total TCDD	558	173	75.4	67.5
Total PeCDD	621	135	ND	66.3
Total HxCDD	952	207	95.6	227
Total HpCDD	2610	518	371	382
Total Furans				
Total TCDF	7680	1,330	783	587
Total PeCDF	8530	2,290	1,180	1,080
Total HxCDF	11,800	5,160	2,520	2,130
Total HpCDF	22,900	10,700	4,820	4,080
X - The result is estimated because at a low level, the GC/MS was unable to give an exact				
positive identification of the compound.				
ND - Non detect				
SCD31 is a blind duplicate of SCD18				

TABLE 4 - CHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURAN SAMPLE SUMMARY

Dioxins and Furans	SC-SED-19	SC-SED-20	SC-SED-21	RB01
	ng/kg	ng/kg	ng/kg	ng/kg
	Diluted	Diluted	Diluted	
2378-TCDD	85.1	ND	21.7	ND
2378-TCDF	594	15.2	414	ND
12378-PeCDF	186	7.43	154	1.91 X
12378-PeCDD	46.7	ND	31.9	ND
23478-PeCDF	582	16.1	517	3.11
123478-HxCDF	7240	178	6,700	1.25 X
123678-HxCDF	1340	31.1	1170	2.54
123478-HxCDD	43.5	4.59	29.8	ND
123678-HxCDD	107	5.06	72.4	2.92 X
123789-HxCDD	84	4.96	46.9	ND
234678-HxCDF	730	18.5	640	2.43
123789-HxCDF	18.3	ND	ND	1.80 X
1234678-HpCDF	27,200	568	28,800	2.19 X
1234678-HpCDD	829	83.8	459	2.95 X
1234789-HpCDF	617	13.8 X	790	2.09 B
OCDD	9,550	1080	4470	10.9 X
OCDF	28,000	825	44,000	4.72 X
Total Dioxins				
Total TCDD	796	13.9	574	ND
Total PeCDD	508	18.1	455	ND
Total HxCDD	1020	65.3	647	ND
Total HpCDD	1600	425	994	ND
Total Furans				
Total TCDF	6170	138	4,150	ND
Total PeCDF	8270	160	5,330	3.11
Total HxCDF	17,300	383	16,200	4.96
Total HpCDF	30,500	634	32,900	2.09
X - The result is estimated because at a low level, the GC/MS was unable to give an exact				
positive identification of the compound.				
ND - Non detect				
B - Results were outside of quality assurance limits.				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-01	SC-SW-01	SC-SED-02	SC-SW-02
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	8900	67,000	12,000	5500
Antimony	3.8	15	3.3	ND
Arsenic	20	73	12	ND
Barium	93	390	78	120
Beryllium	0.59	ND	0.77	ND
Cadmium	1.7	9.3	1.4	ND
Calcium	3400	200	6400	180
Chromium	570	3000	510	280
Cobalt	9.4	62	11	ND
Copper	100	460	99	ND
Iron	21,000	160,000	30,000	18,000
Lead	160	540	110	ND
Magnesium	5100	600	8300	250
Manganese	260	3300	430	920
Nickel	31	200	35	17
Mercury	1.7	8.8	0.44	ND
Potassium	1600	180	2300	100
Selenium	0.77	ND	ND	ND
Silver	1.3	8.1	1.8	ND
Sodium	4300	5000	10,000	2100
Thallium	ND	ND	ND	ND
Vanadium	36	250	38	ND
Zinc	210	1100	210	ND
Total Organic Carbon	39,000	N/A	53,000	N/A
ND - Non detect				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-03	SC-SW-03	SC-SED-04	SC-SW-04
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	11,000	10,000	12,000	1200
Antimony	2.7	ND	20	ND
Arsenic	12	ND	21	ND
Barium	77	150	58	58
Beryllium	0.73	ND	ND	ND
Cadmium	1.1	ND	0.65	ND
Calcium	5800	190	29,000	160
Chromium	410	390	3800	24
Cobalt	11	8.7	71	ND
Copper	89	31	17	ND
Iron	29,000	29,000	52,000	2400
Lead	97	29	48	ND
Magnesium	7800	270	21,000	490
Manganese	440	1100	740	310
Nickel	34	24	260	5.7
Mercury	0.59	0.49	0.25	0.066
Potassium	2100	100	470	150
Selenium	0.74	ND	ND	ND
Silver	1.7	ND	ND	ND
Sodium	8200	2300	3700	4000
Thallium	ND	ND	ND	ND
Vanadium	36	22	720	ND
Zinc	190	86	210	ND
Total Organic Carbon	39,000	N/A	5500	N/A
ND - Non detect				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-05	SC-SW-05	SC-SED-06	SC-SW-06
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	4700	8,400	1000	760
Antimony	4.4	ND	4.2	ND
Arsenic	9.3	ND	4.4	ND
Barium	190	260	160	620
Beryllium	ND	ND	ND	ND
Cadmium	0.83	ND	ND	ND
Calcium	210,000	290	280,000	810
Chromium	790	1300	740	1900
Cobalt	4.9	11	2.9	ND
Copper	26	21	9.3	11
Iron	42,000	39,000	2,400	980
Lead	38	65	59	25
Magnesium	18,000	500	20,000	12
Manganese	1300	1300	180	60
Nickel	17	39	30	14
Mercury	0.46	0.31	0.51	0.62
Potassium	990	150	ND	8.2
Selenium	ND	ND	ND	ND
Silver	ND	ND	ND	ND
Sodium	13,000	3900	860	110
Thallium	ND	ND	ND	ND
Vanadium	37	74	30	33
Zinc	92	220	56	40
Total Organic Carbon	29,000	N/A	15,000	N/A
ND - Non detect				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-07	SC-SW-07	SC-SED-08	SC-SW-08
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	11,000	ND	4,100	ND
Antimony	4.6	ND	9.5	ND
Arsenic	2.7	ND	6.2	ND
Barium	62	98	210	69
Beryllium	ND	ND	ND	ND
Cadmium	0.46	ND	0.43	ND
Calcium	59,000	92	240,000	50
Chromium	790	1400	1600	1100
Cobalt	26	ND	22	ND
Copper	130	ND	73	ND
Iron	23,000	240	14,000	200
Lead	26	ND	200	26
Magnesium	13,000	11	10,000	6
Manganese	240	11	370	13
Nickel	650	8.2	310	8.6
Mercury	5.1	0.086	4.3	0.49
Potassium	520	16	210	13
Selenium	ND	ND	ND	ND
Silver	ND	ND	ND	ND
Sodium	1700	220	1400	180
Thallium	ND	ND	ND	ND
Vanadium	100	120	150	81
Zinc	160	ND	140	9.6
Total Organic Carbon	25,000	N/A	27,000	N/A
ND - Non detect				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-09	SC-SW-09	SC-SED-10	SC-SW-10
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	5300	ND	19,000	ND
Antimony	11	ND	57	ND
Arsenic	2.5	ND	2.4	ND
Barium	260	160	110	46
Beryllium	ND	ND	ND	ND
Cadmium	ND	ND	0.47	ND
Calcium	220,000	89	210,000	35
Chromium	2000	710	11,000	230
Cobalt	32	ND	64	ND
Copper	74	ND	12	ND
Iron	22,000	580	35,000	870
Lead	540	200	110	80
Magnesium	25,000	6.4	40,000	8.3
Manganese	600	42	570	81
Nickel	170	7	360	5.1
Mercury	24	8.3	0.22	ND
Potassium	300	6.3	ND	6.1
Selenium	ND	ND	ND	ND
Silver	ND	ND	ND	ND
Sodium	740	57	560	51
Thallium	ND	ND	ND	ND
Vanadium	310	ND	280	ND
Zinc	120	ND	110	8.6
Total Organic Carbon	18,000	N/A	11,000	N/A
ND - Non detect				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-30	SC-SW-30	SC-SED-11	SC-SW-11
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	2,700	ND	1,500	410
Antimony	11	ND	8.6	ND
Arsenic	2.9	ND	1.6	ND
Barium	360	36	300	140
Beryllium	ND	ND	ND	ND
Cadmium	2	ND	ND	ND
Calcium	260,000	26	310,000	150
Chromium	1,500	200	1400	450
Cobalt	4.4	ND	3.9	ND
Copper	35	ND	16	ND
Iron	12,000	680	5,400	2,200
Lead	3300	61	880	330
Magnesium	7,200	8.1	12,000	11
Manganese	1400	58	780	220
Nickel	14	ND	24	7
Mercury	0.26	ND	0.14	ND
Potassium	170	6	110	6.2
Selenium	ND	ND	ND	ND
Silver	ND	ND	ND	ND
Sodium	1200	50	1600	50
Thallium	ND	ND	ND	ND
Vanadium	39	ND	21	10
Zinc	960	ND	71	40
Total Organic Carbon	15,000	N/A	14,000	N/A
ND - Non detect				
SC-SEC-30 is a duplicate of SC-SED-10 and SC-SW-30 is a duplicate of SC-SW-10				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-12	SC-SW-12	SC-SED-13	SC-SW-13
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	1,600	1500	12,000	250
Antimony	8.9	17	38	ND
Arsenic	1.1	ND	17	ND
Barium	180	250	15	50
Beryllium	ND	ND	0.6	ND
Cadmium	ND	ND	5	ND
Calcium	63,000	390	53,000	31
Chromium	1500	3300	5300	250
Cobalt	1.7	ND	19	ND
Copper	11	ND	170	ND
Iron	4,100	1200	57,000	1,700
Lead	430	210	10,000	420
Magnesium	15,000	7.1	6,000	12
Manganese	660	200	520	72
Nickel	7.2	ND	99	7.3
Mercury	0.088	ND	0.016	0.11
Potassium	ND	4.3	750	6.9
Selenium	ND	ND	1.8	ND
Silver	ND	ND	1.5	ND
Sodium	1000	69	1,500	53
Thallium	ND	ND	2.4	ND
Vanadium	15	ND	200	12
Zinc	71	22	1500	29
Total Organic Carbon	12,000	N/A	130,000	N/A
ND - Non detect				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-14	SC-SW-14	SC-SED-15	SC-SW-15
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	12,000	ND	12,000	330
Antimony	37	ND	45	ND
Arsenic	20	ND	18	ND
Barium	18	18	35	68
Beryllium	0.72	ND	0.61	ND
Cadmium	4.5	ND	4.5	ND
Calcium	14,000	21	20,000	25
Chromium	5,100	150	7400	240
Cobalt	18	ND	17	ND
Copper	250	ND	250	10
Iron	81,000	880	65,000	3,000
Lead	3700	76	5200	240
Magnesium	3,800	10	4,700	11
Manganese	590	56	450	110
Nickel	91	ND	81	6.3
Mercury	0.022	ND	0.091	0.056
Potassium	1100	6.5	1200	6.7
Selenium	2.3	ND	2.2	ND
Silver	2.2	ND	2.7	ND
Sodium	960	47	990	46
Thallium	2.2	ND	2.4	ND
Vanadium	200	ND	240	14
Zinc	900	ND	830	29
Total Organic Carbon	120,000	N/A	170,000	N/A
ND - Non detect				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-16	SC-SW-16	SC-SED-17	SC-SW-17
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	13,000	2500	2,800	ND
Antimony	170	59	18	ND
Arsenic	24	ND	4.7	ND
Barium	13	550	130	83
Beryllium	0.76	ND	ND	ND
Cadmium	5.5	ND	2.2	ND
Calcium	14,000	63	260,000	34
Chromium	3800	810	1900	270
Cobalt	15	ND	8	ND
Copper	320	56	54	ND
Iron	62,000	29,000	24,000	1,100
Lead	30,000	12,000	4,400	380
Magnesium	3,400	14	7,200	17
Manganese	420	540	1900	57
Nickel	76	20	29	10
Mercury	0.023	0.2	0.21	ND
Potassium	840	8.9	240	8
Selenium	2.3	ND	ND	ND
Silver	2.2	ND	ND	ND
Sodium	850	44	1,500	69
Thallium	3.2	ND	ND	ND
Vanadium	210	56	76	ND
Zinc	1600	400	1200	59
Total Organic Carbon	120,000	N/A	28,000	N/A
ND - Non detect				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-18	SC-SW-18	SC-SED-31	SC-SW-31
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	2,500	ND	20,000	ND
Antimony	12	ND	65	ND
Arsenic	3.2	ND	3.4	ND
Barium	380	70	130	71
Beryllium	ND	ND	ND	ND
Cadmium	1.3	ND	0.78	ND
Calcium	280,000	35	240,000	35
Chromium	1,600	260	13,000	270
Cobalt	4.4	ND	64	ND
Copper	34	ND	15	ND
Iron	12,000	430	35,000	450
Lead	3600	140	150	150
Magnesium	7,400	18	38,000	18
Manganese	1500	45	620	46
Nickel	14	10	380	10
Mercury	0.21	ND	0.21	ND
Potassium	180	8.3	ND	8.3
Selenium	ND	ND	ND	ND
Silver	ND	ND	ND	ND
Sodium	1300	70	650	71
Thallium	ND	ND	ND	ND
Vanadium	41	ND	260	ND
Zinc	870	13	120	18
Total Organic Carbon	16,000	N/A	11,000	N/A
ND - Non detect				
SC-SED-31 is a duplicate of SC-SED-18 and SC-SW-31 is a duplicate of SC-SW-18				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-19	SC-SW-19	SC-SED-20	SC-SW-20
	mg/Kg	ug/L	mg/Kg	ug/L
Aluminum	19,000	ND	8,300	690
Antimony	55	ND	18	ND
Arsenic	24	ND	3	ND
Barium	63	70	200	91
Beryllium	0.68	ND	ND	ND
Cadmium	3.3	ND	0.79	ND
Calcium	7,500	46	260,000	110
Chromium	5100	250	3700	720
Cobalt	22	ND	3.3	ND
Copper	210	ND	25	ND
Iron	77,000	1,400	30,000	4,600
Lead	13,000	310	330	ND
Magnesium	4,600	22	9,500	26
Manganese	220	120	930	280
Nickel	100	11	11	9.4
Mercury	0.028	ND	0.067	ND
Potassium	780	9	270	12
Selenium	1.1	ND	ND	ND
Silver	1.4	ND	ND	ND
Sodium	350	69	2300	97
Thallium	ND	ND	ND	ND
Vanadium	320	ND	86	21
Zinc	1000	13	100	ND
Total Organic Carbon	100,000	N/A	14,000	N/A
ND - Non detect				

TABLE 5 - TOTAL METAL AND TOTAL ORGANIC CARBON SAMPLE SUMMARY

Total Metals	SC-SED-21	SC-SW-21	RB-01	
	mg/Kg	ug/L	ug/L	
Aluminum	11,000	1,900	ND	
Antimony	68	16	ND	
Arsenic	25	16	ND	
Barium	320	200	ND	
Beryllium	0.55	ND	ND	
Cadmium	2.6	ND	ND	
Calcium	6,800	92	ND	
Chromium	2100	350	ND	
Cobalt	8.9	ND	ND	
Copper	320	48	ND	
Iron	42,000	31,000	ND	
Lead	3,500	490	ND	
Magnesium	4,800	15	ND	
Manganese	120	380	ND	
Nickel	37	9.9	ND	
Mercury	0.47	0.16	ND	
Potassium	820	9.5	ND	
Selenium	2.4	ND	ND	
Silver	0.9	ND	ND	
Sodium	570	28	ND	
Thallium	ND	ND	ND	
Vanadium	140	30	ND	
Zinc	570	150	ND	
Total Organic Carbon	160,000	N/A	ND	
ND - Non detect				

E.7 Transformer Area Data

1990-1993 Remedial Investigation

1990-1993 Remedial Investigation
Excerpt from RI Report

Free phase product was observed in sample SB-2 (B) from the sand just above the clay, and in the groundwater sample from MW-15L. Based on these results, it appears that the soils (and free phase product) in the vicinity of Building 2 are a continuing source of contamination to the groundwater. The source of the contamination appears to be from the handling of materials shipped to and from the site.

5.3.2 Transformer Area Sediment

One sediment sample (S-3) was collected from the surface of a concrete pad in a former transformer area (Figure 5-1) and analyzed for PCBs. Elevated PCB Aroclor-1260 (5,160 mg/kg) were detected in the sediment. This sample was analyzed only for PCBs, therefore it is not known whether interference effects produced by the presence of high concentrations of chlorobenzenes affect the reliability of the PCBs results (see Subsection 5.1).

5.4 MIGRATION PATHWAYS

The RI addressed two potential migration pathways for chemical releases from the site: surface water drainage and groundwater.

5.4.1 Surface Drainage

5.4.1.1 Description of Site Drainage

Surface water drains from the site along two paths which lead respectively to outfalls to the Hackensack River at the northeastern and southeastern corners of the property. The northeast outfall receives drainage from the northwestern corner of the property. Runoff collects in a depression which drains through a culvert into a buried storm drain which runs along the entire northern border of the SCCC property. The storm drain also receives runoff from the Belleville Turnpike. The outfall is totally submerged at high

1997-1999 Supplemental Remedial Investigation

TABLE 3-1

SOIL ANALYTICAL RESULTS FOR PCB's
STANDARD CHLORINE CHEMICAL COMPANY

CONSTITUENT: (Units in mg/kg)	New Jersey Non-Residential Soil Cleanup Criteria	New Jersey Residential Soil Cleanup Criteria	SITE: DESCRIPTION: DATE: DEPTH (ft): ANALYTICAL METHOD:	TA-CC01 CONCRETE CHIP 10/9/98 0" - 1" 8081	8082	TA-SS01 SURFACE SOIL 10/9/98 0" - 6" 8081	8082	TA-SS02 SURFACE SOIL 10/9/98 0" - 6" 8081	8082	TA-SS03 SURFACE SOIL 10/9/98 0" - 6" 8081	8082
PCB-1016				< 340	< 28	< 0.034	< 0.055	< 0.034	< 0.055	< 0.036	< 0.055
PCB-1221				< 340	< 6	< 0.034	< 0.011	< 0.034	< 0.011	< 0.036	< 0.011
PCB-1232				< 340	< 28	< 0.034	< 0.055	< 0.034	< 0.055	< 0.036	< 0.055
PCB-1242				< 340	< 28	< 0.034	< 0.055	< 0.034	< 0.055	< 0.036	< 0.055
PCB-1248				< 340	< 31	< 0.034	< 0.061	< 0.034	< 0.061	< 0.036	< 0.061
PCB-1254				< 340	< 22	< 0.034	< 0.044	< 0.034	< 0.044	< 0.036	< 0.044
PCB-1260				6800	9300	0.15	0.12	0.16	0.29	0.022 J	< 0.076
PCB's (Total)	2	0.49		[6800]	[9300]	0.15	0.12	0.16	0.29	0.022 J	ND

[ ] - Indicates sample concentration greater than New Jersey Non-Residential Soil Cleanup Criteria.
J - Estimated concentration less than the method detection limit.